



PLANTS

of the

NYIKA PLATEAU

edited by John Burrows & Christopher Willis





Malawi



To Nthalire
and Chitipa

Zambia

Zambian Rest House
Chowo Forest

To Chitipa

To Rumphi

Kawonga

Mpanda

Kawozya

Romero R.

Sabi R.

Chipome R.

Jalawe
Viewpoint

Domwe
Viewpoint

Nganda
2607 m

Wovwe R.

Chisanga Falls
Forest

Zovochipolo
Lake Kaulime

Mpopoti

Chelinda
Plantation

Kalabwe

Nyamakhowa

Chosi

Sangule
Kopje

Nthakati

Mwenembwe
Forest

Mwanda

Vitinthiza
Hill

Chelinda
Hill

Juniper-
Forest

Kasaramba Viewpoint

Mbuzinandi

Bangwa

Kasaramba Forest

Rungya R.

Chelinda R.
S. Rumphi R.

Fingira
Rock

Thazima

Nkhonjera

KEY

- Town, village
- Staff camp
- ▲ Rest camp
- △ Camping site
- * Historical site
- ▲ Hill
- River
- Dam
- Roads
- ≡ Waterfall

0 5 10 15
Kilometres

Plants of the Nyika Plateau



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Biodiversity Institute

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Back cover: Impressions of Nyika (W. Pawek).

Spine: *Impatiens tinctoria* subsp. *latifolia* (J. Burrows).

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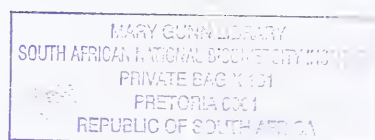


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Plants of the Nyika Plateau

An account of the vegetation of the Nyika National Parks
of Malawi and Zambia



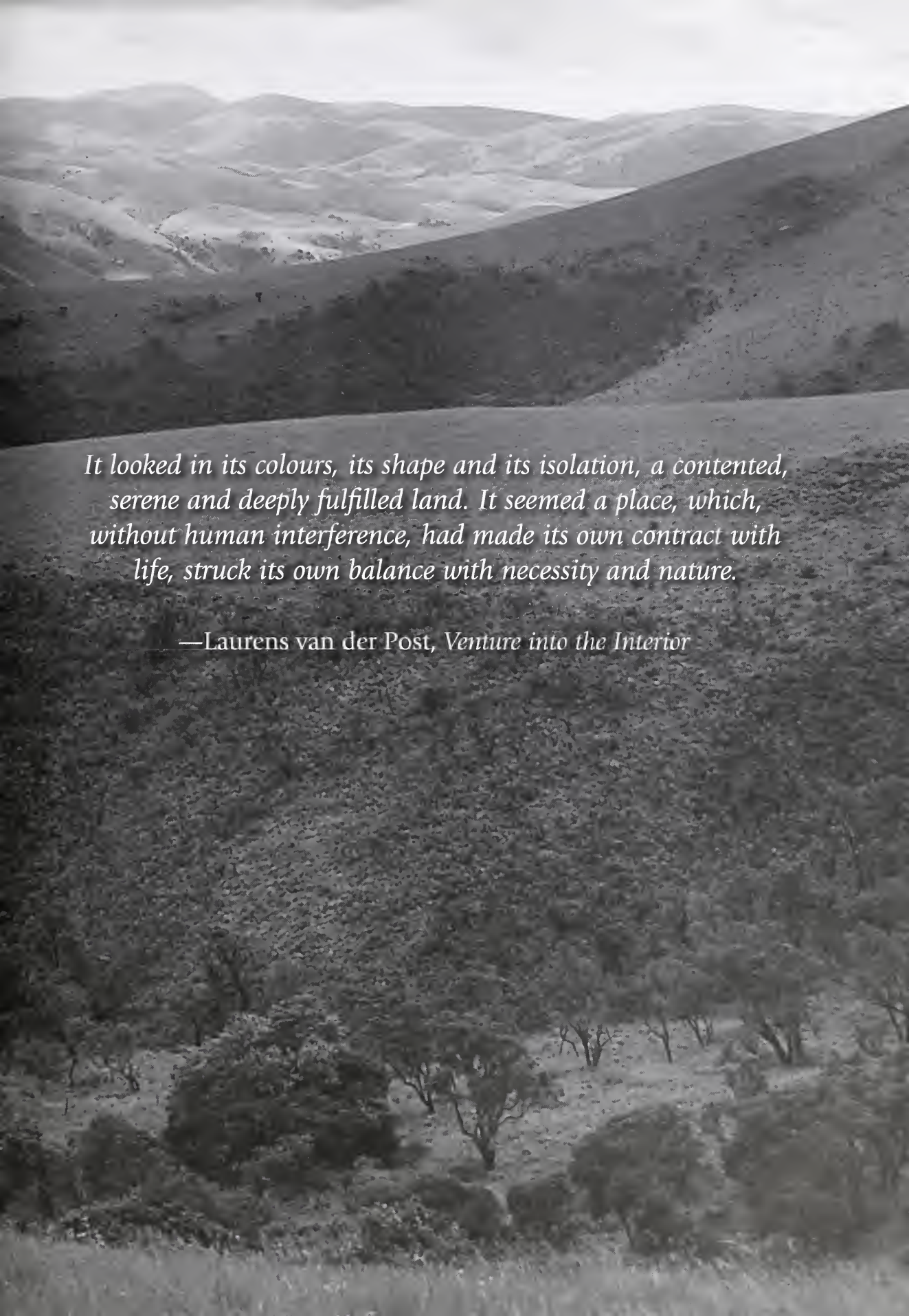
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2005

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It looked in its colours, its shape and its isolation, a contented, serene and deeply fulfilled land. It seemed a place, which, without human interference, had made its own contract with life, struck its own balance with necessity and nature.

*—Laurens van der Post, *Venture into the Interior**



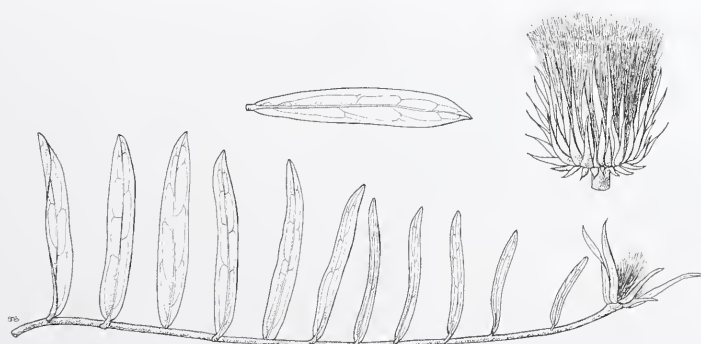
This book is dedicated to Indra Hassam Patel (left) and Augustine J. Salubeni (right), parataxonomists in the service of Malawi's National Herbarium and Botanic Gardens.

They have been involved in collecting and studying plants of the Nyika Plateau for over 30 years, and have accompanied many plant collectors from both Africa and Europe on expeditions to the Nyika Plateau.

Their collection of over 3,000 specimens is housed mainly in K, MAL, and SRGH. Hassam is based in Mzuzu, northern Malawi, and Augustine works at Malawi's National Herbarium in Zomba.

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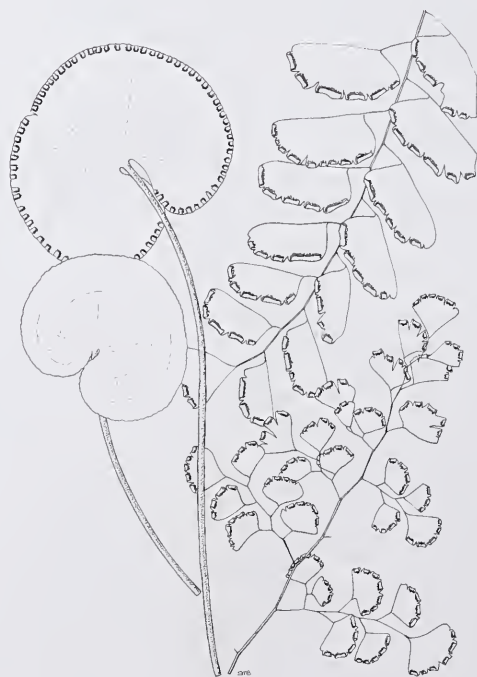
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Foreword

I feel very honoured to have been asked by Christopher Willis, chief organiser of the SABONET Nyika Plateau Expedition in 2000, to provide a foreword for *Plants of the Nyika Plateau*. This book will be a valuable reference work for biodiversity managers, planners, academics, researchers, decision-makers, NGOs, and local communities.

The Nyika Plateau is a unique ecosystem for the survival of old plants and birth of new ones. Over millennia, the mixture of both old and new plant species has resulted in unique plant diversity, making the Nyika Plateau one of the world's hotspots or important plant areas. A new visitor to Nyika is always greeted on the main plateau by the beauty of the rolling grasslands with dotted outcrops of varied forests, hills, and mountaintops. Of course to the tourist, this is just another place for recreation, while the local people regard the Nyika Plateau as a source of clean water and valuable non-timber products; but to the biologist, that beauty, both at species and habitat level, becomes a big attraction for scientific inquiry. Thus, the rich plant diversity of the Nyika Plateau has been a subject of research for botanists over the years, and the SABONET Nyika Plateau Expedition and its resultant publication are commendable developments that will improve our knowledge about the plants of the Nyika Plateau.

The SABONET Nyika Plateau Expedition was one of the main capacity-building activities of the SABONET project; a similar collecting expedition was undertaken to southern Mozambique in 2001. The expedition was notable since it was organised from within the sub-region, and was attended by 24 participants from six countries in southern and eastern Africa (Malawi: 7, Mozambique: 1, South Africa: 9, Zambia: 4, Zimbabwe: 2 and Tanzania: 1). The participation of both veteran and young botanists from the region enriched the expedition and made it unique. The collection of 3,343 plant specimens is a remarkable achievement. The description of one new species, many new plant distribution records, and the identification of several rare species are indications of the international botanical importance of the Nyika Plateau. I have no doubt that the Nyika Plateau provided a natural theatre and laboratory where veteran botanists such as Augustine Salubeni, Hassam Patel, Leonard Mwasumbi, John Burrows, and Patrick Phiri, amongst others, taught their young colleagues many aspects of field botany and plant taxonomy, including collection techniques, field identifications, character recognition of major plant groups, Nyika Plateau endemics, and rare plants. The great plant diversity of the Nyika Plateau must indeed have re-affirmed and demonstrated once again to the expedition members the concept of a "hotspot". In addition, the Nyika Plateau must have shown the unique distribution patterns of some plants, such as the pencil cedar, whose disjunct southern distribution appears to end at the Plateau.

The botanical survey of many developing countries remains poor mainly owing to lack of financial resources for fieldwork. This insufficient knowledge about the botany of our plants will impede the implementation of international obligations (such as the Convention on Biological Diversity, Wetland Convention—RAMSAR, and Millennium Development Goals) that aim to assist our governments to achieve sustainable development. However, for the ten southern African countries, the GEF/UNDP and USAID/IUCN ROSA funding of the SABONET project has meant enhancement of scientific and technical co-operation on plant diversity. In particular, building a team of experts from the region to collect, identify, document, and publish *Plants of the Nyika Plateau* shows that, given adequate funding, Africa has the human capacity to document every plant in our respective countries. Certainly, the Nyika Plateau team should not rest, but use the Nyika Plateau experience to penetrate and botanise other important under-collected habitats in our sub-region. They should form a long-lasting human network on which the region will rely for solving botanical and taxonomic problems at both the national and regional level.

Professor J.H. Seyani

**General Manager & Chief Executive
National Herbarium and Botanic Gardens of Malawi**



Kasyaula Forest (Malawi)



Manyenjere Forest (Zambia)

Preface

For in order to care deeply about something important it is first necessary to know about it. So let us resume old-fashioned expeditions at a quickened pace, solicit money for permanent field stations, and expand the support of young scientists—call them “naturalists” with pride—who by inclination and the impress of early experience commit themselves to deep knowledge of particular groups of organisms.

—E.O. Wilson, “On the future of conservation biology”

This book represents our current knowledge and understanding of the diversity of plants found on the Nyika Plateau, and draws on both published and unpublished information. The checklist was started in 1999, to aid plant collectors on a SABONET-funded regional plant collecting expedition to the Nyika Plateau in March–April 2000; subsequently, the list has been refined, based on the collections made during the expedition.

One of our main aims was to make the final publication as useful to as broad an audience as possible. It had to be accessible, not only to taxonomists and plant diversity specialists, but also to research staff working in the Nyika National Parks and tourists interested in the Nyika Plateau’s plant diversity. To this end, an illustration of every plant genus in the list has been included, making the task of identification easier. Where possible, diagnostic characters of specific genera have been indicated in the drawings. Photographs of landscapes and plants will assist readers in recognising some of the Nyika Plateau’s diverse landscapes, habitats, and flowering plants.

We believe that this publication will make a significant contribution towards documenting the Nyika Plateau’s diverse floral heritage. It is a continuation of work done by botanists and plant collectors, some more than a century ago. We recognise that this checklist may be incomplete, and trust that it will be expanded and improved upon as knowledge of the Nyika Plateau flora increases. Furthermore, it is our hope that this checklist will be used to assist conservation authorities and planners in safeguarding the Nyika Plateau’s flora and its associated life forms for both present and future generations.

John Burrows

Christopher Willis



Abbreviations and acronyms

AETFAT	<i>Association pour l'Etude Taxonomique de la Flore d'Afrique Tropical</i> (Association for the Taxonomic Study of the Flora of Tropical Africa)
aff.	<i>affinis</i> , affiliated to, bordering
alt.	altitude
auctt.	<i>auctorum</i> , of authors, implying in common usage
BP	before present
C.A.R.	Central African Republic
ca	<i>circa</i> , about, roughly
cf.	<i>confer</i> , compare with
coll.	<i>collegit</i> , he gathered, collected by
CSIR	Council for Scientific and Industrial Research
CUSO	Canadian University Service Overseas
Del.	<i>Delineavit</i> , drawn by
D.R.C.	Democratic Republic of Congo (formerly Zaire)
E.	east, eastern (in species lists)
et al.	<i>et alii</i> , and others
F.T.A.	<i>Flora of Tropical Africa</i>
F.T.E.A.	<i>Flora of Tropical East Africa</i>
F.Z.	<i>Flora zambesiaca</i>
GEF	Global Environment Facility
holo.	holotype
ibid.	<i>ibidem</i> , in the same place
iso.	isotype
IUCN	The World Conservation Union
lecto.	lectotype
loc.cit.	<i>loco citato</i> , at the place cited, usually implying “cited above”
LUOTC	Leeds University Officer Training Corps
ms.	manuscript
N.	north, northern (in species lists)
nom. alt.	<i>nomen alternativum</i> , an alternative name
nom. cons.	<i>nomen conservandum</i> , conserved name
nom. illeg.	<i>nomen illegitimum</i> , illegitimate name
nom. nudum	<i>nomen nudum</i> , name published without a description
S.	south, southern (in species lists)
s.n.	<i>sine numero</i> , without a number
SABONET	Southern African Botanical Diversity Network
SAC	Satellite Application Centre
sp.	species, singular
spp.	species, plural
SUOTC	Southampton University Officer Training Corps
syn.	syntype
UNDP	United Nations Development Programme
W.	west, western (in species lists)
WWF	World Wide Fund for Nature

Herbarium acronyms

Herbarium acronyms follow Holmgren, Holmgren & Barnett (1990) and Smith & Willis (1999).

A Herbarium, Arnold Arboretum, Harvard University, Cambridge, Massachusetts, U.S.A.

B	Herbarium, Botanischer Garten und Botanisches Museum Berlin-Dahlem, Berlin, Germany
BM	Herbarium, Botany Department, The Natural History Museum, London, England, U.K.
BOL	Bolus Herbarium, Botany Department, University of Cape Town, Cape Town, South Africa
BR	Herbarium, Nationale Plantentuin van België, Jardin Botanique National de Belgique, Domaine van Bouchout, Meise, Belgium
BRLU	Herbarium, Laboratoire de Botanique Systématique et de Phytosociologie, Université Libre de Bruxelles, Bruxelles, Belgium
C	Herbarium, Botanical Museum, University of Copenhagen, Copenhagen, Denmark
CAH	Herbarium, Department of Biological Sciences, University of Zimbabwe, Harare, Zimbabwe
COI	Herbarium, Botanical Institute, University of Coimbra, Coimbra, Portugal
DAV	John M. Tucker Herbarium, Botany Department, University of California, Davis, California, U.S.A.
DBN	Herbarium, National Botanic Gardens, Glasnevin, Dublin, Ireland
DSM	Herbarium, Botany Department, University of Dar es Salaam, Dar es Salaam, Tanzania
E	Herbarium, Royal Botanic Garden, Edinburgh, Scotland, U.K.
EA	Herbarium, National Museums of Kenya, Nairobi, Kenya
FHO	Daubeney Herbarium, Plant Sciences Department, University of Oxford, England, U.K.
FRIM	Forestry Research Institute of Malawi, Zomba, Malawi
GA	Herbarium, University of Georgia, Athens, Georgia, U.S.A.
J	Charles E. Moss Herbarium, Botany Department, University of the Witwatersrand, Johannesburg, South Africa
K	Herbarium, Royal Botanic Gardens, Kew, England, U.K.
LISC	Herbário, Centro de Botânica, Instituto de Investigação Científica Tropical, Lisbon, Portugal
LMA	Herbarium, National Institute for Agronomic Research, Maputo, Mozambique
LMJ	Herbarium, Botanical Department of the Cotton Research Centre, Maputo, Mozambique. LMJ transferred to LMA.
M	Herbarium, Botanische Staatssammlung, München, Germany
MA	Herbario, Real Jardín Botánico, Madrid, Spain
MAL	National Herbarium, Zomba, Malawi
MO	Herbarium, Missouri Botanical Garden, Saint Louis, Missouri, U.S.A.
MPR	Herbarium, National Plant Genetic Resources Centre, Mount Makulu Central Research Station, Chilanga, Zambia
MU	Herbarium, Botany Department, Miami University, Oxford, Ohio, U.S.A.
NBG	Compton Herbarium, South African National Biodiversity Institute, Cape Town, South Africa
NDO	Herbarium, Division of Forest Research, Forestry Department, Kitwe, Zambia
NH	KwaZulu-Natal Herbarium, South African National Biodiversity Institute, Durban, South Africa
NU	Herbarium, Botany Department, University of KwaZulu-Natal, Pietermaritzburg, KwaZulu-Natal, South Africa
NY	Herbarium, New York Botanical Garden, Bronx, New York, U.S.A.
OXF	Fielding-Druce Herbarium, Plant Sciences Department, University of Oxford, Oxford, England, U.K.
P	Herbier, Laboratoire de Phanérogamie, Muséum National d'Histoire Naturelle, Paris, France
PRE	National Herbarium, South African National Biodiversity Institute, Pretoria, South Africa
RNG	Herbarium, Plant Science Laboratories, University of Reading, Whiteknights, Reading, Berkshire, England, U.K.
S	Herbarium, Botany Departments, Swedish Museum of Natural History, Stockholm, Sweden
SAM	South African Museum Herbarium, Cape Town, South Africa; maintained as a separate entity within the Compton Herbarium (NBG), South African National Biodiversity Institute, Cape Town, South Africa
SCHG	Southern Cape Herbarium, George, South Africa
SRGH	National Herbarium (and Botanic Garden), Causeway, Harare, Zimbabwe
UC	University Herbarium, University of California, Berkeley, California, U.S.A.
UMO	Herbarium, Biological Sciences Division, University of Missouri, Columbia, Missouri, U.S.A.
UNIN	University of the North Herbarium, Polokwane, South Africa
UPS	Botanical Museum (Fytoteket), Uppsala University, Uppsala, Sweden
US	United States National Herbarium, Botany Department, Smithsonian Institution, Washington, D.C., U.S.A.
UT	Garrett Herbarium, Utah Museum of Natural History, University of Utah, Salt Lake City, Utah, U.S.A.
UZL	University of Zambia Herbarium, Lusaka, Zambia
WAG	Herbarium Vadense, Department of Plant Taxonomy, Agricultural University, Wageningen, Netherlands
WU	Herbarium, Institut für Botanik, Universität Wien, Wien, Austria

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Sandie Burrows prepared the majority of the line drawings. The many hours spent illustrating the various Nyika plant genera are greatly appreciated. We also thank Sandie for her help and support during the SABONET Nyika Expedition in March–April 2000.

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Rainbow on Nyika.

Introduction

*Where essential silence cheers and blesses,
And forever in the hill-recesses
Her more lovely music
Broods and dies.*

*O to dream, O to awake and wander
There, and with delight to take and render,
Through the trance of silence,
Quiet breath;*

*Lo! for there, among the flowers and grasses,
Only the mightier movement sounds and passes;
Only winds and rivers,
Life and Death.*

—R.L. Stevenson

The Nyika Plateau—the largest montane complex in south-central Africa—lies close to the northern tip of Lake Malawi. Most of the Plateau lies in Malawi, with a small section across the border in Zambia. The name “Nyika” means wilderness, and the Plateau consists of rolling grasslands, criss-crossed by deep valleys, with occasional forest patches.



Burchell's zebra



Acacia abyssinica



Nthakati Peak

The Nyika Plateau separates two of the major faults of the African Rift Valley system—Lake Malawi to the east and the Luangwa Valley of Zambia to the west. Nyika's position along the Rift Valley system results in frequent earth tremors, and northern Malawi is, indeed, the most seismically active part of the country (Johnson 1993).

The Nyika Plateau occupies an area of some 1,800 km² above the 1,800 m contour, which usually marks the zone of transition from woodland to montane grassland and forest. Of the total area, only about 70 km² on the western side is within Zambia (Dowsett-Lemaire 1985). The Plateau, roughly oval in shape and oriented in a northeasterly direction, lies between 10°15'–10°50'S and 33°35'–34°05'E. Only the wet eastern escarpment is extensively forested. Between 2,100 m and 2,500 m, the central plateau (approximately 60% of the montane area) consists of rolling *Loudetia*—*Andropogon* grassland, interspersed with small patches of low forest. These forest patches account for less than three percent of the area (Dowsett-Lemaire 1985).

The surface of the Plateau is gently undulating, with convex valley sides sloping at 10° to 15°. Towards the margins though, slopes are steeper, particularly in the north and east (Meadows 1984a). At times, the valleys that cut into the surface are up to 1 km wide, and 200 m deep. Usually, such valleys are partially filled with a variety of sediments (the maximum recorded depth being 6.2 m) (Meadows 1984a) and have poorly drained marshy floors. Occasionally, large high granite or resistant quartzite outcrops rise above the grassland.

Most of the remote Nyika Plateau is included within Malawi's Nyika National Park; originally called Malawi National Park, the name of the park was changed to the Nyika National Park in 1969. It is the largest of Malawi's national parks and is currently administrated by the Department of National Parks and Wildlife. In 1978 the Nyika National Park area was extended from the initial 940 km² to its current size and includes all of the plateau escarpments and most of the northeast and south hill zones (Johnson 1993). The park now spans 3,134 km², with another 70 km² on the western edge of the Nyika Plateau belonging to the Zambian Nyika National Park.

The highest points on the Nyika Plateau are Nganda Hill at 2,607 m in the north, and Kasaramba at 2,460 m in the southeast. The lowest point drops to 580 m in the northeast corner of the park along the Ruwile River (Johnson 1993). Lake Kaulime near Chelinda is the only natural lake in the park—it was formed by a landslide that blocked the outflow from one of the headwaters of the North Rukuru River (Johnson 1993).

Climate

Malawi has a single rainy season during the summer months of November to April (Dowsett-Lemaire 1985). Minimum monthly temperatures at Chelinda (2,300 m), Nyika National Park, vary between 11°C (June–July) and 16°C (November–December) (Dowsett-Lemaire 1985). A record minimum temperature of -12°C has been measured at Chelinda (G. Brown, pers. comm.). Maximum temperatures are relatively stable throughout the year and vary between 17°C and 20°C. Temperatures of up to 26°C are recorded during September–November and February.



Nganda Peak

The high-rainfall areas (with an annual mean above 1,500 mm) are located on the eastern and western sides of the Nyika Plateau. Much of the high plateau above 2,200 m experiences a lower rainfall, usually averaging 1,000–1,200 mm per annum. The figures are even lower in the north, in the shadow of the high peaks of Nganda and Domwe (Dowsett-Lemaire 1985). According to Cater (1993), most of the rain comes from the west, even though the prevailing wind throughout the year is easterly. Mist-belt conditions (known locally as *chiperone*) do not occur frequently in summer, but from June to September the eastern half of the plateau is often covered with cloud down to ground level (Cater 1993).

Drainage and soils

There are four major rivers that have their source in the headwater dambos of the Nyika Plateau—the North Rukuru, North Rumphu, Chelinda-Rumphu, and the Runyina, all draining into Lake Malawi. These rivers are of great importance to water management in the Northern Region of Malawi, as water supply to much of this area would be totally cut off should the dambos ever dry up (Meadows 1984a). Spectacular rapids and waterfalls, such as the Chisanga Falls, are formed where rivers cut through the rim of the Plateau.

The soils of the plateau are mainly acidic with a pH ranging from 4.0 to 5.5 (Williamson 1979). These humic latosols are typical of the high-plateau soils of the tropics (Meadows 1984a).

Landslips

There are many landslide scars on the Nyika Plateau, some relatively fresh and others older and revegetated. While earth tremors can be responsible for mass movement on a large scale and are known to occur on the Nyika Plateau, heavy rainfall is probably the main cause (Meadows 1984a). The landslips are concentrated in the eastern part of the plateau, a fact that suggests greater precipitation (or perhaps greater precipitation intensities) and consequently greater chemical weathering (Meadows 1984a). Geology may also affect landslide distribution, as Cordierite Gneiss is restricted to the eastern plateau (Thatcher 1974, Meadows 1984a). Some of these landslips are large, like the Chelinda 1960 event, but many are small and typically characterised by a pronounced concavity in the hillside and a hummocky topography lower down (Meadows 1984a).

According to Meadows (1984a), landslips seem to be important in determining the vegetation pattern on the Nyika Plateau. Many of the forest patches are associated with the valley heads on the steeper slopes of the concavities, of which many are former landslide scars. Three factors favour the survival of the forest species in these scars:

- In the initial post-movement period, much open ground is made available for the establishment of tree species since the broken topography and bare soil act as a firebreak.
- The steeper slopes on which these forests are concentrated are not favourable to fire spreading, since fires tend to travel up, rather than down, steep inclines. Fire is unlikely to travel up these slopes from lower down, because the dambos, which consistently lie below the forests, are saturated even in the dry season and could therefore not be the source of fires.



Kudu antelope



Chisanga Falls



Vitumbi Road

- The soils that ultimately develop under the forest vegetation are deep and are a much better medium for plant growth, with greater moisture capacities that discourage fire (Meadows 1984a).

Fire

Fire, nevertheless, plays an important role on the Plateau. Each hectare of plateau grassland is burned approximately every three years as stipulated by National Park policy. Management goes to considerable lengths to ensure that these fires do not destroy the forest patches and an elaborate system of fire-breaks has been constructed around the larger patches (Meadows 1984a). Lemon (1968) could find no evidence that the induced Nyika fires cause destruction of valuable forage plants and invasion by weeds, although there is a drain on the nutrient reserves. Indeed, the welfare of many species, particularly some legumes, such as *Aeschynomene oligophylla*, may well depend on periodic burning (Meadows 1984a).

Plateau grassland is burned for two reasons. Firstly, controlled burns and fire-breaks initiated in the early part of the dry season ensure that the damaging hot burns later during the dry season do not happen. Secondly, burning appears to encourage game animals. Herds of bushbuck, zebra, eland, and roan antelope selectively graze the more recently-burnt ground, presumably because the fresh shoots that emerge after burning are more nutritious (Meadows 1984a).

Vegetation communities

Within the Nyika National Park, miombo woodland covers roughly 60% of the park, montane grasslands and dambos around 37%, and evergreen forest more or less 3% (Johnson 1993). Four main vegetation communities are recognised and are described in more detail below.

Table 1. Breakdown of plant taxa on the Nyika Plateau.

	Families	Genera	Species	Infra-specific taxa	Exotic species
Pteridophytes	22	47	107	2	0
Gymnosperms	3	4	4	0	1
Monocotyledons	24	147	548	10	2
Dicotyledons	111	486	1,158	36	23
Totals	160	684	1,817	48	26

Table 2. The 21 largest genera on the Nyika Plateau.

Genus	Family	Species
Habenaria	Orchidaceae	43
Vernonia	Asteraceae	31
Plectranthus	Lamiaceae	26
Crotalaria	Fabaceae	25
Disa	Orchidaceae	22
Helichrysum	Asteraceae	21
Indigofera	Fabaceae	21
Satyrium	Orchidaceae	20
Eulophia	Orchidaceae	18
Eragrostis	Poaceae	16
Panicum	Poaceae	16
Aeschynomene	Fabaceae	15
Hyparrhenia	Poaceae	14
Eriosema	Fabaceae	14
Cyperus	Cyperaceae	14
Scleria	Cyperaceae	14
Buchnera	Scrophulariaceae	13
Sporobolus	Poaceae	12
Bidens	Asteraceae	11
Rhynchosia	Fabaceae	11
Polygala	Polygalaceae	11

Table 3. A comparison between the largest families on the Nyika Plateau and Mt. Mulanje,* Malawi.

Nyika Plateau (total taxa: 1,891)	No. of species	Mt. Mulanje (total taxa: 1,317)	No. of species
Orchidaceae	200	Orchidaceae	122
Asteraceae	185	Asteraceae	99
Poaceae	165	Poaceae	90
Fabaceae (<i>sensu stricto</i>)	159	Fabaceae (<i>sensu stricto</i>)	82
Rubiaceae	90	Rubiaceae	82
Cyperaceae	73	Euphorbiaceae	46
Lamiaceae	65	Cyperaceae	37
Euphorbiaceae	41	Lamiaceae	35
Apocynaceae (<i>sensu lato</i>)	41	Acanthaceae	31
Acanthaceae	33	Scrophulariaceae	20
Scrophulariaceae	33		

* A. Strugnell, pers. comm. (2003).

Table 4. A summary of the 33 Nyika endemics.

Taxon	Life form	Habitat niche	Notes
Acanthaceae			
<i>Monechma varians</i> C.B. Clarke	Suffrutex herb	Habitat unknown	Only three collections.
Apiaceae			
<i>Peucedanum articulatum</i> C.C. Townsend	Perennial herb	Wet montane grassland	Occasional.
<i>Peucedanum</i> sp. nov., aff. <i>P. harmsianum</i> H. Wolff	Perennial herb	Montane grassland in wet areas	Occasional.
<i>Pimpinella nyassica</i> Norman	Geophytic herb	Streamsides in montane grassland	Occasional.
Apocynaceae			
<i>Ceropegia</i> sp. [Goyder, Paton & <i>Tawakali</i> 3579 herbarium?]	Suffrutex herb	Shallow soil over rock	Only one collection.
<i>Glossostelma nyikense</i> Goyder	Suffrutex herb	Montane grassland	From six collections.
Asteraceae			
<i>Brachytrix malawiensis</i> (Wild & G.V. Pope) G.V. Pope	Perennial herb	Montane grassland or woodland	Only Nyika-Malawi, from two localities.
<i>Brachytrix pawekiae</i> Wild & G.V. Pope	Perennial herb	Montane grassland	Few collections only.
<i>Brachytrix sonchiodes</i> Wild & G.V. Pope	Perennial herb	Secondary forest or marshes/ streamsides	Also Nyika-Zambia. Possibly widespread.
<i>Helichrysum hilliardiae</i> Wild	Perennial herb	Swamps or marshes in montane grassland	Unspecified locality on Nyika Zambia. Several collections on Nyika-Malawi. Locally common.
<i>Helichrysum tithoniodes</i> Wild	Perennial herb	Miombo woodland	Only Nyika-Malawi. Locally common.
<i>Osteospermum nyikensis</i> Wild	Perennial herb	Montane grassland	Two records only.
<i>Vernonia fractiflexa</i> Wild	Perennial herb	Montane grassland	Type locality only (near Nganda Peak).
<i>Vernonia kawoziensis</i> F.G. Davies	Perennial herb	Miombo woodland	Type locality only (Kawozya Hill).
Balsaminaceae			
<i>Impatiens rubromaculata</i> Warb. subsp. <i>schulziana</i> (Launert) Grey-Wilson	Perennial herb	Moist forest	Taxonomy uncertain.
Crassulaceae			
<i>Crassula nyikensis</i> Baker f.	Succulent shrub	Bare rock	Only three collections.
Euphorbiaceae			
<i>Phyllanthus nyikae</i> Radcl.-Sm.	Perennial shrub	Montane grassland at forest margins	Mainly eastern Nyika-Malawi. Perhaps only two collections. Rare.
Fabaceae			
<i>Indigofera hilaris</i> Eckl. & Zeyh. var. <i>microscypha</i> (Baker) Gillett	Suffrutex shrub	Montane grassland	Nyika-Malawi only. Rare.
<i>Kotschyia africana</i> Endl. var. <i>latifoliola</i> Verdc.	Perennial shrub	Rocky slopes & seepage areas fringing evergreen forests	Occasional. Nyika-Zambia only.
<i>Crotalaria pilosiflora</i> Baker	Perennial herb	Miombo woodland	Probably widely distributed. Rare.
Lamiaceae			
<i>Plectranthus acaulis</i> Brummitt & Seyani	Suffrutex herb	Montane grassland	A number of collections. Frequent.
<i>Plectranthus zebrarum</i> Brummitt & Seyani	Suffrutex herb	Montane grassland	A number of collections. Frequent.
Lobeliaceae			
<i>Cyphia nyikensis</i> Thulin	Herb (?)	Shallow soil over rock	Only one collection.
Orchidaceae			
<i>Cynorkis anacamptoides</i> Kraenzl. var. <i>ecalcarata</i> P.J. Cribb	Geophytic herb	Wet & marshy grassland	Few collections only (possibly two).

Table 4. A summary of the 33 Nyika endemics. (cont.)

Taxon	Life form	Habitat niche	Notes
<i>Disa praecox</i> (H.P.Linder) H.P.Linder (= <i>Herschelianthe praecox</i>)	Geophytic herb	Montane grassland	A number of collections. Occasional.
<i>Disperis bifida</i> P.J.Cribb	Geophytic herb	Forest floors	Limited distribution. Nyika-Zambia only.
<i>Disperis breviloba</i> Verdc.	Geophytic herb	Miombo woodland & montane grassland	
<i>Habenaria livingstoniana</i> la Croix & P.J.Cribb	Geophytic herb	Miombo woodland	Type locality only. Eastern escarpment. Rare.
<i>Habenaria riparia</i> Renz & Grosvenor	Geophytic herb	Swampy areas & streamsides	Type locality only. Frequent.
<i>Stolzia compacta</i> P.J.Cribb subsp. <i>compacta</i>	Epiphytic herb	Montane forest	Single collection. Locally common.
Oxalidaceae			
<i>Oxalis chapmaniae</i> Exell	Geophytic herb	Montane grassland	Frequent.
Poaceae			
<i>Setaria grandis</i> Stapf	Perennial herb	Drainage lines & forest margins	Frequent.
Polygalaceae			
<i>Polygala lactiflora</i> Paiva & Brummitt	Perennial shrub	Montane scrub	Occasional.

Table 5. A summary of the 13 near-endemics of the Nyika Plateau. (A near-endemic is defined here as a species occurring mainly on the Nyika but also found on the Viphya Plateau, Makutu Mountains, Mafinga Mountains and/or the Misuku Hills.)

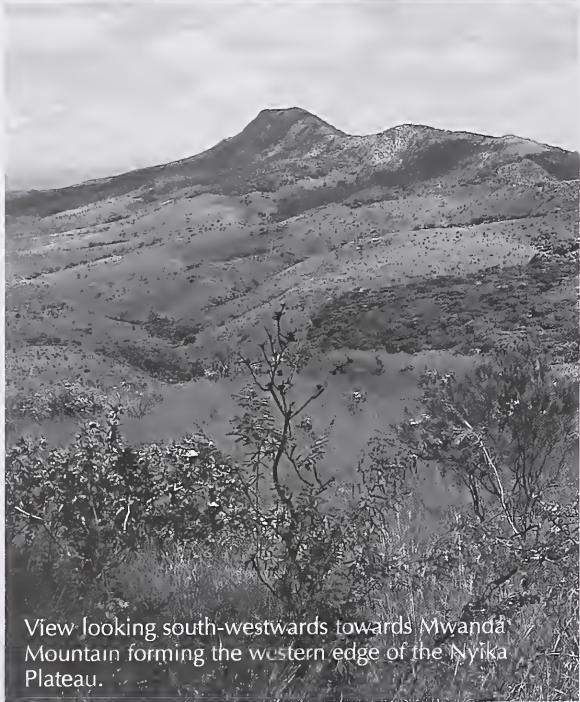
Acanthaceae
<i>Isoglossa strigulosa</i> C.B.Clarke
Euphorbiaceae
<i>Erythrococca trichogyne</i> (Müll.Arg.) Prain var. <i>psilogyne</i> Radcl.-Sm.
<i>Euphorbia ampliphylla</i> Pax
Fabaceae
<i>Aeschynomene tenuirama</i> Baker var. <i>hebecarpa</i> Verdc.
<i>Vigna phoenix</i> Brummitt
Lamiaceae
<i>Ocimum obovatum</i> E.Mey. ex Benth. subsp. <i>crystallinum</i> (A.J.Paton) A.J.Paton
Orchidaceae
<i>Habenaria nyikensis</i> G.Will.
<i>Habenaria petraea</i> Renz & Grosvenor
<i>Habenaria pubidens</i> P.J.Cribb
Polygalaceae
<i>Polygala nyikense</i> Exell
Scrophulariaceae
<i>Buchnera crassifolia</i> Engl.
<i>Buchnera nitida</i> Skan
Selaginaceae
<i>Selago thyrsoidea</i> Baker var. <i>thyrsoidea</i>



Lake Kaulime



Chelinda Bridge



View looking south-westwards towards Mwanda Mountain forming the western edge of the Nyika Plateau.

Table 6. Comparison of the floristic richness and endemism of similar upland areas within the Afromontane archipelago.

	Nyika Plateau, Malawi	Mount Mulanje, Malawi ¹	Chimanimani Mts, Zimbabwe ²	Simien Highlands, Ethiopia ³	Mt Cameroon, Cameroon ⁴
Area (km ²)	3,204	640	390	?	2,700
Taxa/km ²	0.59	2.03	2.2	?	0.9
Number of total taxa	1,891 ⁵ (1,782 ⁶)	1,303 ^{5,6}	859	550	2,435 ⁵ (2,248 ⁶)
Number of endemics	33	69	70 ⁷ (41 ⁸)	12	49
Percentage endemism	1.7%	5.3% ⁶	8.1% (4.8%)	2.2%	2.0%
Number of near-endemics	13	25	?	?	?

References:

- 1. Strugnell (2002)
- 2. Wild (1964), Mapaura (2002)
- 3. Puff & Nemomissa (2001)
- 4. Cable & Cheek (1998)

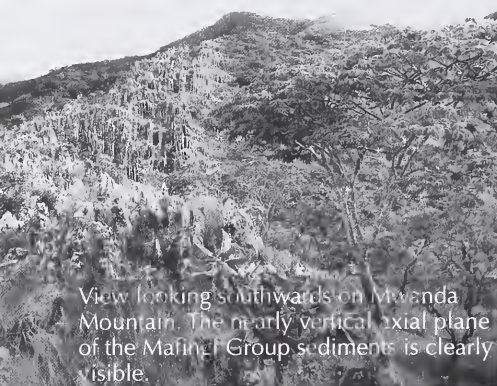
Notes:

- 5. Includes subspecific taxa and naturalised exotic species.
- 6. Excludes pteridophytes.
- 7. After Mapaura (2002).
- 8. After Wild (1964).





Miombo



View looking southwards on Mt. Wanda Mountain. The nearly vertical axial plane of the Mafingir Group sediments is clearly visible.



View of the Nyika Plateau looking northwards from Mt. Wanda Mountain, Malawi.

Broad-leaved miombo woodlands

Trees in the broad-leaved miombo woodland are usually 10–20 m tall, whereas stunted growth at higher elevations can result in trees as short as 3 m. The broad-leaved miombo woodlands are dominated by *Brachystegia* species.

Montane grasslands

Unlike lowland African grasslands where grasses often reach more than 3 m in height, the Nyika Plateau grassland supports short, montane varieties that seldom top 1 m (Johnson 1993). In addition to over 90 species of short grass, the montane grassland community includes herbaceous legumes, wild flowers, and shrubs. The four most abundant genera of herbaceous legumes are *Aeschynomene*, *Dolichos*, *Eriosema*, and *Rhynchosia*. These are widely distributed over the grassland community (Johnson 1993).

Dambos

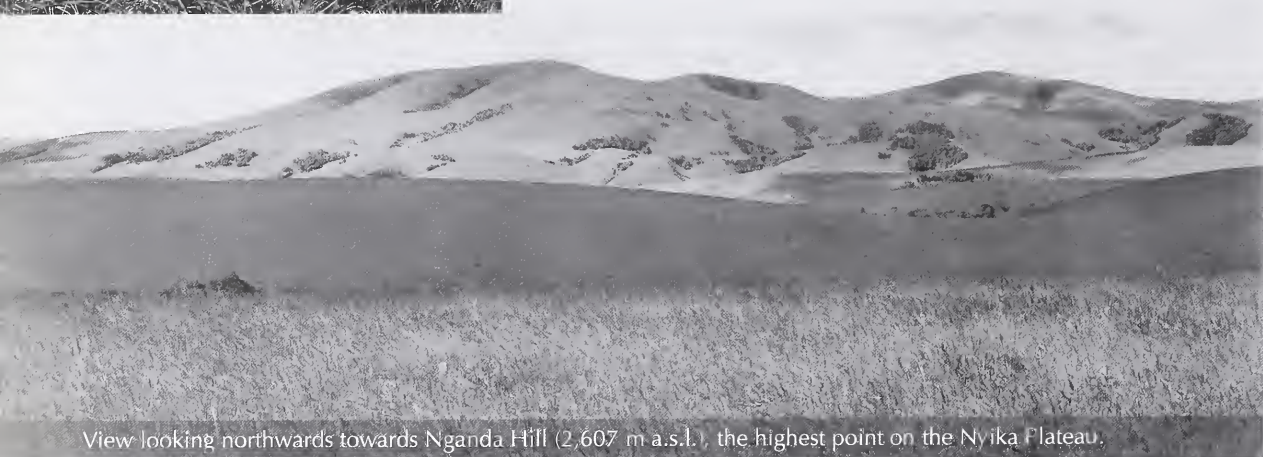
Valleys that are partially filled with sediments have poorly drained floors, and grasslands that occur in these marshy headwater valleys are known as “dambos” (Meadows 1985). The dambo is a distinctive feature of the upper reaches of drainage networks in south-central and east Africa. Dambos play an important role in the collection of run-off prior to its concentration in stream flow. A rich, moist-habitat herbaceous flora occupies the dambos and is dominated by species of the sedge family (Cyperaceae), of which *Carex* and *Cyperus* species are most common (Meadows 1984a, Meadows 1985, Meadows & Linder 1989). Dambo vegetation usually grows in tussocks (Johnson 1993), and although sedges are the dominant vegetation type, herbaceous plants are also widespread. Plants associated with the dambos include the giant lobelia, *Lobelia mildbraedii*, and numerous orchid species in the genera *Eulophia*, *Habenaria*, *Satyrion*, and *Disa*.

Peat formation is the major current process responsible for dambo infill. A high water table, nutrient-poor acidic rocks, relatively high precipitation, and reduced mean annual temperatures at altitude all contribute to retarding decomposition rates (Meadows 1984a; Meadows 1985). According to Meadows (1984a), the basal date for dambo infill in both the Nyika Plateau and Inyanga Mountains is shortly after 12,000 BP, a time that coincides with increased precipitation in the tropics.

Evergreen forests

Dowsett-Lemaire (1985) recognised six different types of evergreen forest within the Nyika National Park:

- Submontane forests of the eastern escarpment (1,900–2,250 m)
- Submontane Juniper forest
- Submontane forests of Nkhonjera Hill
- Submontane forests of the southwestern slopes
- Montane forests of the high plateau (2,250–2,600 m), confined to the heads of dambos and streams, or where rocky outcrops have given some protection from fire
- Riparian forest



View looking northwards towards Nganda Hill (2,607 m a.s.l.), the highest point on the Nyika Plateau.

Plant diversity

The Nyika Plateau has been classified as one of Africa's Centres of Plant Diversity (designated Af65), according to WWF & IUCN (1994). In the early 1990s, a total of 1,200 vascular plant species were recorded on the Plateau (Seyani, Chikuni & Kamundi 1991). Patel, Brummitt, and Overton later provided a preliminary checklist of 1,420 species, based on plant specimens collected there between 1958 and 1999, and deposited in the Kew (K) and Zomba (MAL) herbaria (Overton 2000).

In this book, we list a total of 1,817 recorded species. Including the infra-specific taxa and the exotic or naturalised species, the total is 1,891 taxa, grouped in 684 genera and 160 families (Table 1). This figure is a considerable increase on previous estimates of the Nyika Plateau flora. With further collecting on the northern, eastern and southern extremities of the Malawian part of the Plateau, and the confirmation of many of the excluded taxa listed in here, the total figure could reach 2,000.

The top 21 genera—listed in Table 2—are all associated mainly or entirely with the grasslands; we can infer that these genera have achieved their dominance because the Nyika Plateau is such an extensive grassland island. Table 3 illustrates the high diversity of grassland families on the Nyika Plateau. The families Asteraceae, Orchidaceae, Poaceae, Cyperaceae, and Scrophulariaceae are all predominantly grassland families, while the Fabaceae (Leguminosae: Papilionoidae) and the Rubiaceae are strongly represented in the grasslands. An astonishing 44% of the total species in the top ten genera are members of the Orchidaceae. The asclepiad component of the Apocynaceae is particularly large and is also well represented in the grasslands.

Of the top eleven families, only the Rubiaceae and Euphorbiaceae have appreciable representation in the forest and woodland biomes of the Nyika Plateau.

When comparing the dominant plant families of the Nyika Plateau with those of Mt. Mulanje in southern Malawi, the similarity in the dominance and ranking of the main families on the two massifs is striking (Table 3). Although Mt. Mulanje is a rockier mountain, with a far smaller percentage of grassland and a higher proportion of forest, the dominant families remain essentially the same.

Endemism

The Simen (Simien) Mountains, Mt. Mulanje, the Chimanimani Mountains, Mt. Cameroon, and the Nyika Plateau are all mountain blocks with a flora that has evolved in isolation, in much the same way as have the plants on oceanic islands. However, they all have in common the remnants of the Afromontane flora, which once covered a much greater proportion of the African continent, and therefore share many common elements such as similar families and genera. The flora of the Afromontane archipelago grasslands is largely characterised by the families listed in Table 3.

This book lists 33 endemics (Table 4) and 13 near-endemics (Table 5) for the Nyika Plateau (Willis, Burrows, Fish, Phiri, Chikuni & Golding 2001). In this context, “strict endemics” refers to plants restricted to the Nyika Plateau and its foothills. “Near-endemics” include plants that occur on the Nyika Plateau, as well as the Viphya Mountains to the south, the Mafinga Mountains, Makutu Mountains, and the Misuku Hills to the north. The terrestrial orchid flora is also rich (Williamson 1977, 1979, 1980, WWF & IUCN 1994). The remaining forest patches are greatly threatened by dry season fires and agricultural encroachment. The level of endemism in montane grasslands is markedly higher than in montane forests, and is most pronounced for herbs and small shrubby plants. About 25 of the Nyika Plateau endemics are associated with the grasslands, with the remainder associated mainly with the grassland–forest ecotone (Table 4). Ten of the 13 near-endemics are also grassland species. Most striking is the fact that none of the Nyika Plateau endemics are trees. Chapman & White (1970) state that Afromontane forests have low numbers of endemics—endemics are concentrated in grasslands at higher altitudes.

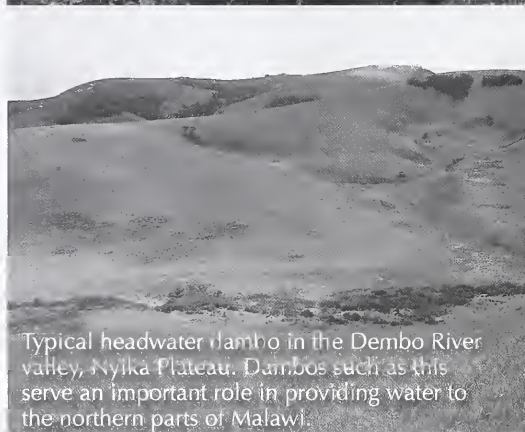
Of the 33 endemics, 28 taxa (>80%) are geophytic or perennial herbs and suffrutices. These life forms are associated with storage organs (rhizomes and tubers), seeding (high volumes and soil-stored seed banks), growth forms (suffrutices), and life strategies (opportunists/pioneers, good competitors, and perennial traits) that are adapted for rapid regeneration after fire disturbances, to which grassland landscapes are especially prone.



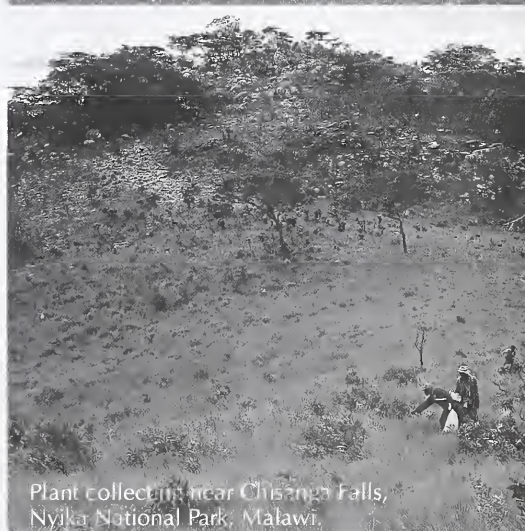
Fingira Rock in the southern section of the Nyika National Park, Malawi.



Dembo River valley, east of Chelinda on the Nyika Plateau.



Typical headwater dambo in the Dembo River valley, Nyika Plateau. Dambos such as this serve an important role in providing water to the northern parts of Malawi.



Plant collecting near Chisanga Falls, Nyika National Park, Malawi.



Chelinda River



April 1976. Jean Pawek alongside Häflinger, Chosi Hill.

The Nyika Plateau, compared to the other areas of the Afromontane archipelago, has only a modest level of endemism. The level of endemism is low (1.7%) compared to Mt. Mulanje (5.3%) and the Chimanimani Mountains (8.1%), as shown in Table 6. Although the level of endemism on the Simen Mountains also seems low (about 2%), it is expected to be much higher in the light of further collecting and taxonomic treatments (Puff & Sileshi Nemomissa 2001).

In our study, some 637 genera (with 1,782 taxa, excluding pteridophytes) were recorded on the Nyika Plateau. By comparison, Mt. Mulanje has a similar number of genera (625), but only 1,317 taxa, whereas the Simen Mountains support 319 genera and only 550 taxa. There are almost three taxa for every genus on the Nyika Plateau, compared to 2.09 for Mt. Mulanje and 1.7 for the Simens. This could be because the flora of the Nyika Plateau has been better studied (that is, more taxonomic work has been done) when compared to the other areas; this is particularly the case with the Simen Mountains. The much greater size of the Nyika Plateau compared to Mt. Mulanje (3,204 km² versus 640 km²) could also account for the higher number of taxa per genus occurring on the Nyika Plateau.

The Nyika Plateau covers the largest area when compared to the other four Afromontane areas listed in Table 6. The Nyika Plateau is relatively species-poor (0.59 taxa/km²) compared to Mt. Mulanje and the Chimanimani Mountains, both of which have a diversity some four times higher (*ca* 2.0 taxa/km²). In addition, although Mt. Mulanje and the Chimanimani Mountains are both less than half the size of the Nyika Plateau, each has a higher number of endemics than the Nyika Plateau.

One surprising finding during the compilation of this checklist was the low level of monocotyledon endemism—very few endemic monocotyledons were recorded. A single endemic grass species (*Setaria grandis*) was found. Although the Cyperaceae is well represented on the Nyika Plateau—it is the sixth largest family, represented by 72 taxa—no sedge endemics were recorded. It was expected that the grasslands and dambo areas would have a considerably higher number of monocotyledon endemics. Strugnell (2002) had a similar finding on Mt. Mulanje. She attributed the unexpectedly low number of monocot endemics on Mt. Mulanje to taxonomic studies that generally tend to focus on only certain high-profile taxa, such as orchids. Further taxonomic work on the monocot families Cyperaceae, Poaceae, Xyridaceae, and Eriocaulaceae may reveal more monocotyledon endemics.



March 2000. SABONET Nyika Expedition, Chosi Hill.



Rukuru Bridge

Botanical exploration of the Nyika Plateau

This section highlights the most important collectors and collecting expeditions in the history of botanical exploration on the Nyika Plateau. This list is chronological, but an alphabetical index of collectors can be found on page 383. The date that appears before each collector's name or collecting expedition represents the year(s) when the collector was working on the Nyika Plateau. Bold names in the text indicate that there is a main entry for that person elsewhere in the list. (Full names of herbaria are listed in "Herbarium Acronyms" on page xi.) Maps represent collecting areas of indicated botanists or expeditions.



1896: Alexander Whyte (1834–1908) was the horticulturist in Sir Harry H. Johnston's administration in British Central Africa (now Malawi), based in Zomba from 1891 to 1897. From May to July 1896, he undertook a collecting expedition in the north of the country, focussing on the Nyika Plateau. He travelled by boat to Florence Bay (now Chitimba Bay), from where he climbed up to the Livingstonia Mission at

Kondowe. He collected on Mount Waller to the east of Livingstonia, and the Chidewa Mountains on the eastern flank of the Nyika Plateau. He returned to Livingstonia and climbed up a ridge onto the Plateau, but soon descended again to the lakeshore plain and walked north to Karonga. From there he headed east along the valley and turned south onto the Plateau again, climbing Mpanda Peak, and went on to Nganda where he collected extensively. He travelled west towards Fort Hill (Chitipa) and north to the Misuku Hills before returning to Karonga. From there, he sailed south again, returning to Zomba. All his botanical collections are housed at K (G.V. Pope, pers. comm.).

1903: John McClounie walked from Karonga, via Fort Hill (Chitipa), to Nkhata Bay with the purpose of obtaining a "precise knowledge of the northwestern portion of Malawi and its agricultural prospects" and "making botanical and zoological collections" (McClounie 1903). Many of McClounie's specimens are obviously mislabelled—it appears that either his labels and their respective specimens were separated at some time, or that he labelled his material only at the end of the trip, his memory affected by the delay. It is clear that many of his collections were made in the low-lying areas to the north of the Plateau, or along Lake Malawi.

1903: M.M.S. Henderson collected specimens on the Nyika Plateau in November 1903. The plant list is housed in BM.

1930s–1940s: Paul Topham, Ross R.G. Townsend, W.E. Lewis & R.G.M. Willan were officers in Malawi's Forest Department and collected during the 1930s and 1940s. Paul Topham was responsible for gazetted the junipers of the Nyika Plateau as a Forest Reserve. Topham's specimens are housed in BM, FHO, K, and MAL. Townsend collected in Malawi from 1932–1937, and he sent the specimens to BM, EA, FHO, and K.

1932: W. Sanderson collected on the Nyika Plateau, although only a few specimens are known from this collector. Specimens are housed in BM.

1932: B.N. Temperley collected on the Nyika Plateau; only a few specimens are known from this collector.

1946: Leonard J. Brass (1900–1971) visited the eastern escarpment via Nchena-Nchena from 10–20 August 1946 (Brass 1948, 1953) as part of the Vernay Nyasaland Expedition of 1946. The report on this expedition was published in 1953 in the *Memoirs of the New York Botanical Garden*. Collected specimens were deposited in NY and K. Plant collections from the upper parts of the escarpment and the plateau of Nyika amounted to 215 numbers (Brass 1953, Brenan & collaborators 1953, 1954). Brass is commemorated in *Helichrysum brassii* (Asteraceae) and *Polystachya brassii* (Orchidaceae).



1947, 1956: F.M. Benson collected on the Malawian side of the Nyika Plateau in 1947 and on the Zambian side in 1956. Mrs Benson's specimens are housed in BM, K, and PRE.

1949: P.O. Wiehe worked as a plant pathologist in Malawi from 1949–1952. He collected grasses on the Nyika Plateau and, in collaboration with George Jackson, collected grasses in Malawi until 1954. In 1958, Wiehe co-authored a checklist on the grasses of Nyasaland (Malawi) with George Jackson (Jackson & Wiehe 1958). His specimens are housed in K and SRGH. Wiehe is commemorated in *Panicum wiehe* (Poaceae).

1949: Hawksworth collected grasses on the Nyika Plateau in 1949. Specimens are housed in K and SRGH.

1950: Monica Krippner collected on the Nyika Plateau in 1950 with R.B. Smith. Her plant list is housed in BM.

1950s: Andrew Angus (b.1926) of Mount Makulu Agricultural Research Station (south of Lusaka), collected with Norman Robson on the Nyika Plateau. Angus started collecting in Northern Rhodesia (Zambia) in 1952, and his specimens are housed in BM, BR, FHO, K, LISC, MPR (MRSC), NDO, PRE, SRGH, and UZL.

1950s: Arthur S. Boughey (b.1913), former professor at the University of Zimbabwe, collected on the Nyika Plateau in the 1950s. Specimens are housed in CAH, K, PRE, and SRGH.

1950s: George Jackson (b.1927), government ecologist in the pre-independence administration of Malawi, collected on the Nyika Plateau in the 1950s (J. Chapman, pers. comm.). He was very influential and one of the main contributors to Kew's collections. He was mainly responsible for the Agriculture Herbarium at Chitedze, which was incorporated into MAL in the 1970s. In 1958, Jackson co-authored a checklist on the grasses of Nyasaland (Malawi) with P.O. Wiehe (Jackson & Wiehe 1958). His specimens are housed in BM, FHO, K, MAL, and SRGH.

1950s–1960s: Raymond M. Lawton (b.1922), based at the Forest Department (Zambia), collected mainly on the Zambian side of the Nyika Plateau. Collected specimens are housed in FHO, K, MPR (MRSC), and NDO.

1950s–1960s: Willem (“Bill”) C. Verboom (b.1909), environmental officer in the Department of Agriculture at Mount Makulu, collected in Zambia in 1959. Specimens are housed in K, MPR (MRSC), PRE, and SRGH.



1950s–1990s: Elias A.K. Banda (1936–1994) was probably the first recognised Malawian plant collector and botanist to collect herbarium specimens on the Nyika Plateau. Banda accompanied many botanists to the Nyika Plateau during the 1950s, when he undertook soil, vegetation, and plant surveys in many parts of Malawi together with George Jackson. He

worked with Philip Adlard, Jim Chapman, and Blodwen Binns from the 1960s through to the 1990s. In 1973, he moved with the University of Malawi from Blantyre to Zomba; this is where the Chitedze, Chongoni (Dedza), and University herbaria amalgamated in 1977 to form the National Herbarium of Malawi (MAL) under Jameson Seyani. Between 1970 and 1982, Dick Brummitt (K) accompanied Banda on many field excursions in Malawi. Banda made thousands of collections (some in collaboration with other collectors) during his illustrious career as a botanist in Malawi. His specimens are housed in MAL, with duplicates mainly at SRGH, K, FHO, MO, EA, and PRE. He co-authored the book *Common weeds of Malawi* with Brian Morris (Banda & Morris 1986) and is commemorated in *Iso-glossa eliasbandae* (Acanthaceae).



1952, 1981: Frank White (1927–1994) visited the Nyika Plateau on a couple of occasions from the University of Oxford, U.K. He studied spermatophytes and published his early findings in the *Forest flora of Northern Rhodesia* (White 1962). Subsequent publications included the *Evergreen forest flora of Malawi* (White, Dowsett-Lemaire & Chapman 2001, published posthu-

ously). White, accompanied by Bruce J. Hargreaves and Augustine J. Salubeni (J. Chapman, pers. comm.), collected in various parts of the Nyika Plateau during a brief visit in April 1981; sites visited included Chowo Rock and Chowo Forest, Nganda, the Zambian Rest House, Chelinda Bridge, Juniper Forest, Kasyaula Forest, Zovochipolo Forest, and the Mwenembwe Forest. He made extensive field notes during this visit (White 1981b).

1952–56, 1960, 1963–65 and 1982: James (Jim) D. Chapman (b.1918), forest officer in the Forestry Department, was a prolific collector of Malawi's indigenous flora, especially trees. He actively collected specimens over a period of more than three decades (1950s to the 1980s). Chapman was transferred to southern Malawi and continued to make extensive plant collections on Mount Mulanje, hence his professional concern with the Misuku Hills between 1952 and 1956. He also managed to collect to some extent on the Nyika Plateau at the time. The bulk of his collecting expeditions to the Nyika Plateau, however, were made in subsequent visits at different occasions in 1960, 1963, 1964, 1965 (around 126 numbers were collected on the Nyika Plateau from 1960 onwards), and finally after his return to Malawi in 1982. Chapman was in charge of the Zomba Herbarium (MAL) for two or three years in the early 1980s, while Jameson Seyani was studying for his D.Phil. in the U.K. (Seyani 1991). All Chapman's woody collections were sent to FHO; his herbaceous collections were sent by the then government ecologist, George Jackson, to BM, while some duplicates went to K, SRGH, and PRE. The strict endemic plant *Oxalis chapmaniae* (Oxalidaceae) is named after Chapman's wife, Elizabeth (“Betty”) Chapman (b.1928), who collected it on the Nyika Plateau in 1953. Chapman and Frank White jointly described the main forest types of the Nyika Plateau in *The evergreen forests of Malawi* (Chapman & White 1970). Jim Chapman, in collaboration with Frank White and Françoise Dowsett-Lemaire, co-authored the *Evergreen forest flora of Malawi* (White, Dowsett-Lemaire & Chapman 2001). Chapman had been working on the project with White since 1952. The floristic lists used in the publication were based, in part, on his sight records and collected specimens.



1955: H.M.N. Lees worked for Zambia's Forest Department and collected in Zambia's Eastern Province, including the Nyika Plateau. Specimens are housed in K.

1958: Gilbert W. Reynolds (1895–1967) collected aloes on the Nyika Plateau during a visit to the area in 1958. A photograph of Reynolds taken on the Nyika Plateau shows him standing next to *Aloe duckeri* (Asphodelaceae), south of Chelinda Rest Camp, in June 1958. This photograph featured in Reynolds's book *The aloes of tropical Africa and Madagascar* (1966:87).



1958, 1959: Norman K.B. Robson (b.1928) made a significant contribution to our knowledge of the Nyika Plateau flora through his collections made in 1958 and 1959 (see Robson 1960). He spent two short periods collecting on the Nyika Plateau in 1958. The first, from 20–29 October, was spent with Andrew Angus. It was with Angus that Robson collected his first 491 numbers. Travelling northward from Lundazi, they reached the Nyika Plateau by road from the Luangwa Valley and stayed at the Northern Rhodesia (now Zambian) Government Rest



House, the only accommodation on the Plateau at the time. In the course of their nine-day stay, they explored examples of most of the vegetation types by vehicle and on foot, but did not reach Nganda Hill, which is the highest point. After visiting Abercorn (now Mbala) and Kitwe, Robson undertook another collecting expedition to the Nyika Plateau from 13–23 November 1958, this time with **Dennys Fanshawe**, the Northern Rhodesian Forest Department botanist. Subsequent attempts to establish the exact position of the boundary between Northern Rhodesia (Zambia) and Nyasaland (Malawi) on the Plateau proved fruitless, hence the use of his provisional designation of the road to the west of the Rest House as the boundary on his specimen labels. Robson is still actively involved in botanical research; he is based at BM. His field notebooks are housed at K.

1959, 1961, 1964: **Edward A. Robinson**, a teacher in Southern Rhodesia (Zimbabwe), collected on the Nyika Plateau in 1959, 1961 and 1964. In January 1959, he joined **Mary Richards** and **Desmond Vesey-Fitzgerald** on a collecting expedition to the Nyika Plateau (Condry 1998). In her diary, Mary Richards described Robinson as “very good on sedges” (Condry 1998; see also Bingham 2002). Robinson moved back to England in September 1967; Mary Richards described his return as “a great loss to African botany” (Condry 1998). Robinson’s collecting notes are housed in K and his specimens in K, NDO, PRE, SRGH, and UZL.

1959–1960: **Philip G. Adlard** (b.1926) collected in the northern part of Malawi in 1959. His specimens are housed in FHO, K, and SRGH.



Richards

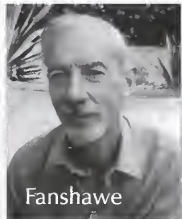


Robinson

1959, 1961, and 1967: **Mary A.E. Richards** (1885–1977), based in northern Zambia and southern Tanzania, collected her first numbered specimen in February 1957. She collected on the Nyika Plateau for the first time in January 1959, in the company of **Edward Robinson** and **Desmond Vesey-Fitzgerald** (Condry 1998). She accompanied Vesey-Fitzgerald to the Nyika Plateau in February 1961 and visited the Nyika Plateau again in November 1967 (Condry 1998). At the age of 88 and losing her sight, Mary left Africa for the last time in April 1974, having collected 29,172 plant specimens. Her many field notebooks and some of her specimens are housed at K. Other specimens are housed in B, BM, BR, EA, LISC, LMJ, NDO, P, PRE, S, and SRGH. Oddly, all Mary Richards’s specimens were written in her husband’s name, and not her own—they are all initialled H.M. Richards, after her husband, Major

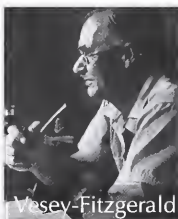
Harry Richards. She is commemorated in 29 plants, including one genus and 28 species, amongst others, *Richardsiella eruciformis* (Poaceae), *Aloe richardsiae* (Asphodelaceae), *Euphorbia richardsiae* (Euphorbiaceae), *Eitlophia richardsiae* (Orchidaceae), and *Habenaria richardsiae* (Orchidaceae).

1960s: **Dennys B. Fanshawe** (1915–1993), Chief Forestry Officer with Zambia’s Forestry Department, collected mainly on the Zambian side of the Nyika National Park during the 1960s; this formed part of a vegetation survey that he conducted in Zambia. Herbarium specimens collected by Fanshawe do not provide precise locality information, stating only that the specimen was collected on the “Nyika”. Specimens are housed in K, NDO, and UZL. He is commemorated in *Euphorbia fanshawei* (Euphorbiaceae) and *Cissus fanshawei* (Vitaceae).



Fanshawe

1960s: **Leslie Desmond Edward Foster** (“Vesey”) **Vesey-Fitzgerald** (1910–1974), an entomologist with the International Red Locust



Vesey-Fitzgerald

close friend of Mary Richards and was considered one of the best field naturalists in Africa (Condry 1998). His specimens are housed in BM, K, FHO, PRE, SRGH, and UZL. A world expert on grasshoppers and locusts, Vesey-Fitzgerald had a broad knowledge of other invertebrates, notably butterflies and dragonflies, as well as mammals, birds, and snakes (Condry 1998). He is commemorated in *Aloe veseyi* (Asphodelaceae).



1960s: **Olive M. Hilliard** (b.1925) and **Brian** (“Bill”) **L. Burtt** (b.1913) collected on the Nyika Plateau in the mid-1960s. Specimens are housed in E and K.

1960s: **W.D.** (“Wilf”) **Holmes**, forestry officer with the Zambian Government Forestry Department, made a few collections on the Nyika Plateau during the 1960s. His field notes are housed in K, MPR (MRSC), and NDO. *Polystachya holmesiana* (Orchidaceae) is named after him.

1960s: **John S. Ball** (1926–1976), manager of the Charter Forestry Estates at Melsetter, Zimbabwe, collected together with **Graham Williamson** and **Bryan Simon** on the Nyika Plateau in February 1968. Specimens are housed in SRGH and UZL. He is commemorated in *Aloe ballii* (Asphodelaceae), *Nervilia ballii* (Orchidaceae), and *Bulbophyllum ballii* (Orchidaceae).

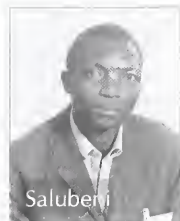
1960: **Joan M. Wright**, based in Lusaka, collected many specimens on the Nyika Plateau for Kew in 1960 (R.K. Brummitt, pers. comm.).

1960: **B.J. Cox** collected specimens that are housed in MPR (MRSC) and SRGH.

1962: **Peter J. Tyrer**, Senior Lecturer in Psychiatry at the University of Southampton, collected on the Nyika Plateau as part of the Cambridge University Central African Expedition in 1962. Tyrer’s plant list from the Expedition is housed in BM.

1965: **M.L.J. Cottrell** collected on the Nyika Plateau in 1965. His specimens are housed in K and SRGH.

1965–2003: **Augustine J. Salubeni** (b.1940), a parataxonomist attached to Malawi’s National Herbarium and Botanic Gardens, started collecting on the Nyika Plateau in 1965. He has since collected over 1,000 specimens from the Nyika Plateau alone, over nearly four decades. Salubeni has accompanied many botanists on collecting trips to the Nyika Plateau. Most of his specimens are housed in K, MAL, and SRGH, with some duplicates (particularly of specimens collected in 1981) at PRE. He is commemorated in *Plectranthus salubeni* (Lamiaceae).



Salubeni

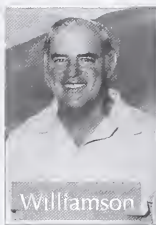
Control Services, Abercorn (Mbala), Zambia, collected on the Zambian side of the Nyika Plateau in 1961 (with **Mary Richards**) and 1967 (then based in Arusha, Tanzania). He was a





Odgers & Williamson

1965–1972: Graham Williamson (b.1932), at the time a private dentist in Lusaka, made extensive collections of orchids on the Nyika Plateau and surrounding woodlands between 1965 and 1972. With the exception of June and July, Graham collected orchids on the Plateau and surrounding woodlands all year round. He later prepared a checklist of the Orchidaceae occurring on the Nyika Plateau (Williamson 1979). Specimens cited in the checklist are mainly from K and SRGH, with a few from MAL and a single orchid specimen from MO. Williamson also collected 60 grass specimens



Williamson



Simon

from the Nyika Plateau (Zambia and Malawi), all housed in SRGH. Williamson undertook collecting expeditions with other botanists on the Nyika Plateau, such as W. Kirby in October 1965, Adrian Odgers in March 1966 (specimens in K), and Bryan K. Simon (b.1943) and John S. Ball in February 1968. Collecting localities on the Nyika Plateau included Chowo Rocks, Lake Kaulime, Chelinda Bridge, Kasaramba, Nganda Drive, and Chisanga Falls. Specimens are housed in K, PRE, and SRGH. Williamson is commemorated in *Cardiobolus williamsonii* and *Stolzia williamsonii*, both orchid species he collected in 1968 in the Kasaramba Forest on the Nyika Plateau; *Euphorbia williamsonii* (Euphorbiaceae) is also named after him.

1966: Blodwen Binns, who was appointed professor at the University of Malawi in Limbe in 1966, founded the herbarium there. She collected only a small number of specimens, but was influential in encouraging many others, including Jean Pawek, to contribute specimens to the herbarium. She was instrumental in persuading Kew to send Dick Brummitt to Malawi in 1970, and compiled a checklist of the herbaceous flora of the country (Binns 1968, see also Binns 1972). She left Malawi in the early to mid-1970s for Edinburgh, U.K. (R.K. Brummitt, pers. comm.).



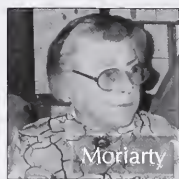
Pawek

1966–1978: Jean L. Pawek (b.1927) was a teacher at Marymount Secondary School in Mzuzu, Malawi, from 1959 to 1978. She was probably the most prolific individual “plant hunter” on the Nyika Plateau. She collected 14,363 plant specimens in Malawi, many of them on the Nyika Plateau, between 1966 and 1978. Her specimens are housed in several herbaria in Africa, Europe, and the U.S.A., including K, MAL, MO, PRE, SRGH, and UC. Her field collecting books are housed in K. Jean Pawek is commemorated in *Isoglossa*



Pawek collecting on the Nyika

pawekiae (Acanthaceae) and several other Malawian plant taxa. Dick Brummitt has aptly referred to the collections of Jean Pawek as constituting “one of the biggest personal contributions in the history of African botany” (R.K. Brummitt, pers. comm.)



Moriarty

1962–1972: Audrey W. Moriarty, a botanical artist, visited the Nyika Plateau on several occasions in the 1960s and early 1970s in preparation of her first book, *Wild flowers of Malawi* (Moriarty 1975). Dick Brummitt persuaded her to make voucher specimens of her illustrations, which he then identified; the voucher specimens are deposited in K. Specimens collected during her visits to the Nyika Plateau are housed mainly in MAL and SCHG, with a few in K.



Patel

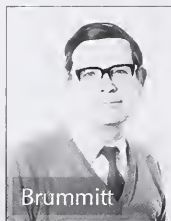
1969–2003: I. Hassam Patel (b.1942), a parataxonomist attached to Malawi's National Herbarium and Botanic Gardens, has collected over 2,000 specimens on the Nyika Plateau. He has accompanied many collecting expeditions and visits to the Nyika Plateau, including the Wye College Expedition (1972), several Biosearch Nyika expeditions (1990s–2003), and the SABONET Expedition. Collected specimens are housed mainly in K and MAL.



Hargreaves

1970s–1981: Bruce J. Hargreaves (b.1942) collected plants on the Nyika Plateau on various occasions in the 1970s and during a brief visit with Frank White and Augustine Salubeni in April 1981. Specimens collected by Hargreaves on the Nyika Plateau are housed in MAL.

1970: Anthony J. Hall-Martin collected briefly on the Nyika Plateau in August 1970. His specimens are housed in PRE.



Brummitt

1970, 1972, 1982, 1989, 1990, and 1991: Richard (Dick) K. Brummitt (b.1937) joined the Kew staff in 1963 and worked solely on *Flora zambesiaca* until 1970. He visited the Nyika Plateau twice in 1970 (May and July), accompanied by his wife, Hilary. He returned to the Nyika Plateau with the Wye College Expedition in 1972 and made subsequent visits in 1982 (with Roger Polhill and Elias Banda), 1989 (spending two weeks at Kayelekera, north of Mpanda Peak), with Jameson Seyani in 1990, and with the XIIIth AETFAT Congress field excursion to the Nyika Plateau in 1991. Elias Banda and Hassam Patel often accompanied Brummitt during his field excursions. Collected specimens have been deposited in K and MAL, with duplicates housed in SRGH, LISC, PRE, UPS, BR. Brummitt has so far visited Malawi 22 times over a span of more than 30 years. He has also climbed Kayuni Hill, probably the only botanist ever to do so; Kayuni Hill has at least one endemic species related to some of the Nyika Plateau endemics.

1972: Delbert Wiens (b.1932), Professor of Botany at the University of Utah in the U.S.A., collected mistletoes on the Nyika Plateau in March 1972 and visited northern Malawi again in February 1986. His collections are housed in K, MAL, and UT.



1972: The Wye College, University of London Expedition to the Nyika Plateau (16 July–17 September 1972) was led by Sam Kent. The Expedition included experts such as Hugh Syngé, Hassam Patel, and Dick Brummitt (plants), and Peter Overton (birds and mammals). Peter Overton subsequently organised the series of Biosearch Nyika Expeditions, which started in March 1997. The aim of the Wye College Expedition was to conduct an ecological survey (fauna, flora, geology, social and economic matters) (Gordon 1993) of the area to the north and east of Nganda Peak, which was considered by the Malawi Government as a possible extension to the Nyika National Park. The report was published in June 1973 and most specimens were deposited in K and MAL. The report was valuable, as the area concerned was hardly known; it was used later for work done on boundary extensions (Gordon 1993). Specimens from the Expedition were labelled either (a) Syngé, (b) Brummitt & Syngé, or (c) Brummitt, Munthali & Syngé. All the collecting numbers have the prefix WC.



1973–77: Eleanor Phillips (d.1997) collected on the Nyika Plateau for MO and K (Dorward & Dorward 1993). Eleanor was the sister of Lady Margaret Roseveare of Rose Falls, Mzuzu, Malawi. After retirement, Eleanor lived with the Roseveares for some years, accompanying them and William and Jean Pawek on many expeditions to the Nyika Plateau. When the Paweks left Malawi, Jean left Eleanor the use of her plant collecting equipment. In June 1990,

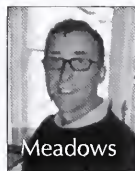
poor health caused Eleanor's retirement to Sherkin Island, Skibbereen, Ireland (J. Pawek, pers. comm.).

1973–76: Tom A. Mill's Masters thesis, *Resource inventory and management plan for the Nyika National Park, Malawi* (1979), presents extensive lists of botanical names without any indication of locality or habitat. These lists seem to be based on the large collections of Jean Pawek, who concentrated on the herbaceous vegetation of the Nyika Plateau. Mill was supported by the Canadian University Service Overseas organisation to conduct research in the Nyika National Park from 1973 to 1976; Moses Kumpumula worked with Mill during this period (Gordon 1993). Mill started a systematic programme to monitor vegetation, game, and weather and also worked with satellite imagery (Gordon 1993).

1977: Rosemary Grosvenor and Jany Renz collected 124 specimens during a six-day excursion to the Nyika Plateau in March 1977. Grosvenor (then based at SRGH) and Renz collected in the Chosi Hill area between Thazima Gate and Chelinda Camp, between Chelinda Camp and Nganda Peak, around Chelinda Camp, at Dembo Bridge, approximately 3 km northeast of Che-

linda Camp on the road to Dembo Bridge, between Chelinda Camp and Kasaramba in the Juniper Forest, at Chelinda Bridge, and west of the Zambian Rest House. Their specimens are housed in K, PRE, and SRGH.

1977–78: Mike E. Meadows (b.1955) studied past and present environments of the Nyika Plateau as part of a Ph.D. thesis through the University of Cambridge, U.K. (Meadows 1982), incorporating pollen



spectra and the analysis of contemporary soil patterns. He collected only a few herbarium specimens when he conducted field research on the Nyika Plateau from July–September 1977 and again from June–November 1978.



1979–1983: Françoise Dowsett-Lemaire (b.1952) studied the forest vegetation on both the Malawian and Zambian sides of the Nyika Plateau (Dowsett-Lemaire 1985, 1989a). She spent 90% of her time in the forests on the south-western slopes, and in particular Zovochipolo. Her publications include an extensive list of pteridophyte and spermatophyte taxa, recorded in the forests and secondary growth of the Nyika Plateau. Most specimens were deposited at BR, some at K, and a few duplicates at MAL. Research on these specimens was conducted between 1979 and 1983. Françoise met Frank White for the first time on the Nyika Plateau in 1981, and subsequently worked with him during many visits to Oxford. Françoise was largely responsible for getting the *Evergreen forest flora of Malawi* (White, Dowsett-Lemaire & Chapman 2001) to press after the death of Frank White in 1994.

1981: Lutgardis van der Linden (b.1949) collected over 200 specimens of vascular plants from various parts of the Nyika National Park during December 1981. During the same period, her husband, Jan Rammeloo (National Botanic Garden, Belgium), made extensive collections of mushrooms in the Nyika National Park. Based on these mushroom collections, three new species of *Marasmius* (Basidiomycetes, Tricholomataceae) were described: *Marasmius lacteoides*, *Marasmius longicystidiatus*, and *Marasmius nyikae* (Antonin 2001). Van der Linden's specimens are held in MAL and BR; a species list is housed in BR.

1981–87: Isobyl F. la Croix (b.1933), with her husband Eric la Croix (b.1929, Technical Cooperation Officer with the Overseas Development Administration of the British Government), collected on the Nyika Plateau between 1981 and 1987. They visited the Nyika Plateau annually between 1981 and 1985. In 1985, they moved from Bvumbwe in the Thyolo District of the Southern Region of Malawi to the Lunyangwa Research Station, near Mzuzu. In 1986 and 1987, Isobyl and Eric tried to go up to the Nyika Plateau about once a month. During their excursions to the Nyika Plateau, Isobyl, Eric, and their son, Tim (b.1965),

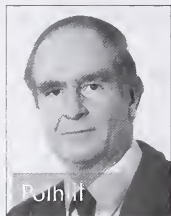


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focussed mainly on orchids (la Croix, la Croix & la Croix 1991). Collected specimens were deposited in K, MAL and MO. Isobyl joined Serena Marner (b.1955) on the Nyika Plateau in 1986 when the latter was researching the genus *Faurea* (Proteaceae). Serena's specimens are housed in FHO.



1982, 1986: Roger M. Polhill (b.1937) collected on the Nyika Plateau in February and March 1982 with Dick Brummitt and Elias Banda. He visited the Nyika Plateau again for one day in April 1986 to recollect *Englerina cordata* (Loranthaceae) at Chisanga Falls; his wife, Diana Polhill, accompanied him. Collections are housed in K, MAL, and SRGH.

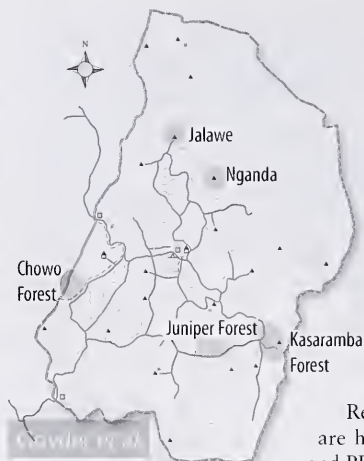
1984: John Feehan, geologist and teacher at Kamuzu Academy, collected mistletoes on the Nyika Plateau in July 1984. His collections are widely distributed, including K, MAL, and SRGH.

1985: Ivan Bampton, an entomologist, collected mistletoes on both the Malawian and Zambian sides of the Nyika Plateau in March and November–December 1985. His collections are held at K.



1986: David Philcox (1926–2003), Gerald Pope (b.1941), and Sylvester Chisumpa (1947–1993) collected 97 specimens on the Nyika Plateau from 16–20 April 1986. Most of the specimens were collected on the Zambian side of the Nyika Plateau (in the vicinity of the Zambian Rest House, Chowo Forest, and Chisanga Falls) with some on the main plateau area in Malawi (Chosi Hill, Chelinda River, Chelinda Bridge, and Dam #3).

1987: Mithen collected in the Chisanga Falls area in 1987. Collected specimens are housed in K, MAL, and SRGH.



1989: David J. Goyder (b.1959), Gerald Pope (b.1941), and Alan Radcliffe-Smith (b.1938) spent 20–21 May 1989 on the Nyika Plateau, based at the Zambian Rest House. Their collections are housed in K, MAL, NDO, and PRE.

1991: Paul Joseph Bamps (b.1932) collected 27 plant specimens on the Nyika Plateau from 28–30 March 1991 during a field excursion, before the XIIIth AETFAT Congress held in Zomba, Malawi. He visited the Juniper Forest, Kasaramba, Chelinda Hill, Chelinda River, and the Chowo Forest. The species list and the specimens are housed in BR.



1991: Pauline L. Perry (b.1927) collected *Eriospermum kiboense* (Eriospermaceae) on the Nyika Plateau on 29 March 1991 during the field excursion before the XIIIth AETFAT Congress. Collected specimens are housed in MAL and NBG.



1991: Sarie M. Perold (b.1928) collected several liverwort species on the Nyika Plateau during a field excursion after the XIIIth AETFAT Congress. Her specimens are housed in PRE.

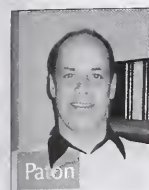
1991: Ib Friis collected specimens of Urticaceae in the Chowo Forest on the Zambian side of the Nyika Plateau during the field excursion after the XIIIth AETFAT Congress. Friis compiled the Urticaceae treatment for *Flora zambesiaca*, published in 1991. Specimens are held in C, K, and MAL.

1992: David J. Goyder (b.1959), Alan J. Paton (b.1963), and Ernest John Tawakali (1953–1996), collected on both the Zambian and Malawian sides of the Nyika Plateau from 20–27 January 1992. Over 50 collections were made across the Plateau area, including Nganda Peak and routes to Kasaramba and the Juniper Forest. The group also explored the northern escarpment below





Jalawe Peak and visited the Chowo and Manyjere Forests on the Zambian side of the western escarpment. Collections were distributed mainly to BR, K, MAL, NDO, the Nyika National Park, and a few to PRE. (Tawakali also collected with Augustine Salubeni in the Kasyaula Forest in 1981.)



1997–9, 2001, 2003: Peter and Marianne Overton organised and led the Biosearch Nyika Expeditions, which concentrated on the northern Nyika area, north of Nganda Hill (the area also concentrated on by the Wye College Expedition of 1972). Hassam Patel led the plant studies and monitoring. Dick Brummitt vetted the botanical findings. The first Biosearch Nyika Expedition was in March–April 1997. The second Biosearch Nyika expedition was conducted in collaboration with students and staff of the Southampton University Officer Training Corps (SUOTC), U.K., in July–August 1998. Another expedition was undertaken by Biosearch Nyika from 19 July–11 August 1999 and involved staff of the Leeds University Officer Training Corps (LUOTC), U.K. (Overton 2000). In September–October 1999, Biosearch Nyika led an expedition to the southern parts of the Nyika National Park, in partnership with the Scientific Exploration Society. Further Biosearch Nyika expeditions were held in July–August 2001, April 2003 and July–August 2003. All reports emanating from these expeditions are available from the Biosearch Nyika offices at Wayfarer Lodge, Welbourn, Lincolnshire LN5 0QH, England, U.K. Further information on the Biosearch Nyika expeditions can be accessed on their web site www.biosearch.org.uk. Most plant specimens collected during the Biosearch Nyika expeditions were deposited in MAL, with some in K.

2000: The SABONET Nyika Regional Plant Collecting Expedition involved botanists from many southern African botanical institutions—it was the first truly southern African-led botanical expedition to the Nyika Plateau, involving 24 botanists from the southern and eastern African countries of Malawi, Mozambique, South Africa, Tanzania, Zambia, and Zimbabwe. From 22 March–10 April 2000, expedition members collected 3,343 specimens from a large number of localities on the Nyika Plateau, both in Zambia and Malawi (Willis, Phiri, Kamundi & Burrows 1999, Willis, Burrows & Winter 2000, Kurzweil & Willis 2001, Willis *et al.* 2001). Specimens were deposited in SRGH, PRE, MAL, UZL, and LMA. Emphasis was placed on previously under-collected areas of the Nyika Plateau. Sites where specimens were collected included the Zambian Nyika National Park, Chosi, Mwanda and Nganda Mountains, Chisanga Falls, Fingira Rock, Zovochipolo, Dembo, Kaulime and Wovwe Rivers, Nthakati Peak, Chelinda Bridge area, Mpopoti, Sangule Kopje, Mbuzinandi, Virinthiza Hill, Jalawe/Domwe area, miombo woodlands in the southwestern part of the Nyika Plateau, as well as the Juniper Forest area. A new bryophyte species, *Fossombronia nyikaensis*, was collected during the Expedition (Perold 2001). Despite these intensive botanical collecting efforts, vast areas of the Nyika Plateau remain undercollected, especially in the more inaccessible northeastern and eastern areas of the Nyika National Park.



Zambian Rest House, 1958.



Hassam Patel (Malawi) alongside a field vehicle on the SABONET Nyika Expedition in March/April 2000. Nganda Hill, the highest point on the Nyika, can be seen in the background.



Wall of plant presses showing the results of the two-week SABONET plant collecting expedition on the Nyika Plateau during March/April 2000. A total of 3,343 plant specimens were collected on this expedition, adding new species and many new distribution records for the Nyika Plateau.



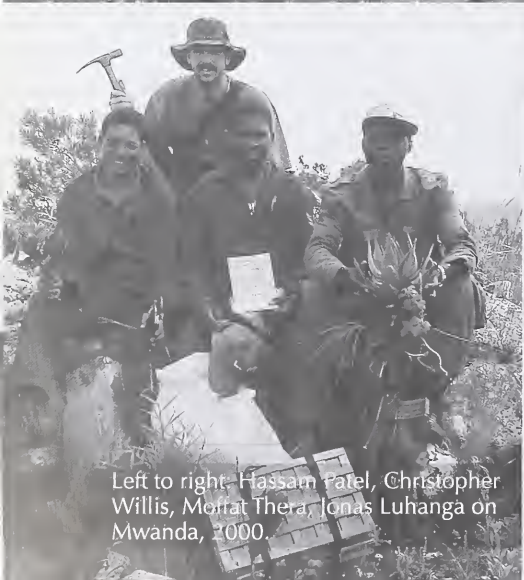
Hassam Patel (Malawi) recording plant specimen information on Mwanda Mountain during the SABONET Nyika collecting expedition in March/April 2000.



William Pawek, Jeah Pawek and Eleanor Phillips



Acacia abyssinica



Left to right: Hassam Fattel, Christopher Willis, Moffat Thera, Jonas Luhanga on Mwanda, 2000.



SABONET Nyika Expedition, March-April 2000

Species accounts

The list of species that follows is a synthesis of all the botanical knowledge currently available on the Nyika Plateau flora. It does not claim to be the final word in taxonomic opinion for every plant group, but will provide a sound basis for future work by botanists, phytogeographers, and reserve managers. It should also serve as a comprehensive plant guide for interested visitors to the two Nyika National Parks.

By far the largest body of information was obtained from the following nine publications:

- *Flora zambesiaca* (current ed. G. Pope, 1960 to present)
- *Flora of Tropical East Africa* (current ed. H. Beentje, 1952 to present)
- *Plants collected by the Vernay Nyasaland Expedition of 1946* (Brenan & collaborators 1953, 1954)
- *Wye College 1972 Malawi Project Final Report* (Brummitt 1973)
- *Resource inventory and management plan for the Nyika National Park* (Mill 1979)
- *The forest vegetation of the Nyika Plateau: ecological and phenological studies* (Dowsett-Lemaire 1985)
- Biosearch Nyika Expedition 1997 report (Patel 1999)
- Biosearch Nyika Expedition 2001 report (Patel & Overton 2002)
- *Evergreen forest flora of Malawi* (White, Dowsett-Lemaire & Chapman 2001)

We also consulted numerous papers dealing with specific families or genera and, finally, included the collections made during the SABONET Nyika Expedition. In addition, botanists from K and PRE provided valuable input in particular plant groups.

Much of the descriptive material is taken directly from one or more of the works listed above, including information regarding habitat and distribution. A single illustration accompanies each genus; two illustrations are sometimes included in large genera with a wide morphological variance (for example, *Lobelia*). Where possible, we quoted two specimens for each country. Where there is some doubt whether a species has in fact been collected on the Nyika Plateau, it is excluded, but listed at the end of the generic treatment under “Excluded species”. Many controversial records from the Biosearch Nyika Expeditions are listed under this heading—these specimens were listed without precise collecting localities, voucher specimens, or indications of who determined them, hence their exclusion from the list. Further research may prove that some of these records should, in fact, be included in the Nyika Plateau list.

Within the major groupings—Bryophyta, Pteridophyta, Gymnosperms, Dicotyledons, and Monocotyledons—the species are arranged alphabetically by family, genus, and species. Families generally follow those adopted by Leistner (2000), while species concepts have been based mainly on those of Lebrun & Stork (1991–1997), except where more contemporary revisions indicate otherwise.

Alien or exotic plant species, many of them weeds, are indicated by * preceding the name. Vernacular names were obtained from Burtt Davy & Hoyle (1958) and Binns (1972). Where it was available, we added the name of the language.

A comprehensive glossary, list of references and further reading, and index appear at the end of the book.

Illustrated species are marked with the following symbols:

- ❖ Illustrated with a line drawing
- Illustrated in the colour plate section

ANTHOCEROTOPHYTA

ANTHOCEROTACEAE

Anthoceros sp.

Malawi. Nyika National Park, middle slopes of path between viewpoint and Chisanga Falls, in miombo woodland, 10° 32' 31"S, 33° 41' 07"E, 2000, *Koekemoer 1738* (PRE).

Anthoceros sp.

Malawi. Nyika National Park, between Dembo Bridge and Chelinda Camp, between grass tussocks on edge of forest. 10° 30' 02"S, 33° 50' 33"E, 2000, *Koekemoer 1767* (PRE).

HEPATOPHYTA

AYTONIACEAE

Asterella abyssinica (Gottsche) Grolle

Malawi. Nyika National Park, between Chelinda Bridge and Dembo River crossing, near bridge, 10° 32' 09"S, 33° 51' 17"E, 2000, *Koekemoer 1760* (PRE); Jalawe Viewpoint, close to the top, 10° 21' 41"S, 33° 47' 51"E, 2000, *Koekemoer 1875* (PRE); Nyika National Park, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1891* (PRE).

Asterella wilmsii (Steph.) S.W.Arnell

Malawi. Nyika National Park, Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1912* (PRE).

Plagiochasma eximium (Schiffn.) Steph.

Malawi. Nyika National Park, Jalawe Viewpoint, just below the wooden steps to the last boulders, 10° 21' 41"S, 33° 47' 51"E, 2000, *Koekemoer 1878* (PRE).

FOSSOMBRONIACEAE

Fossombronia nyikaensis Perold

This liverwort, recently described, was first collected on the SABONET Nyika Expedition (Perold 2001).

Malawi. Nyika National Park, South Circular Route, at Chelinda Bridge, 2000, *Koekemoer 1792* (PRE, holo.); *ibid.*, *Koekemoer 1786* (PRE).

20"S, 33° 48' 41"E, 2000, *Koekemoer 1704* (PRE); on road surface close to Juniper Forest, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1895* (PRE).

Fossombronia sp.

Malawi. Nyika National Park, road cutting near Chelinda Camp, 10° 35' 20"S, 33° 48' 41"E, 2000, *Koekemoer 1703* (PRE).

Fossombronia straussiana Perold

Malawi. Nyika National Park, road cutting near Chelinda Camp, 10° 35'

JUNGERMANNIACEAE

Jungermannia sp.

Malawi. Nyika National Park, between Chelinda Bridge and Dembo River

crossing, near bridge, 10° 32' 09"S, 33° 51' 17"E, 2000, *Koekemoer 1763* (PRE).

LUNULARIACEAE

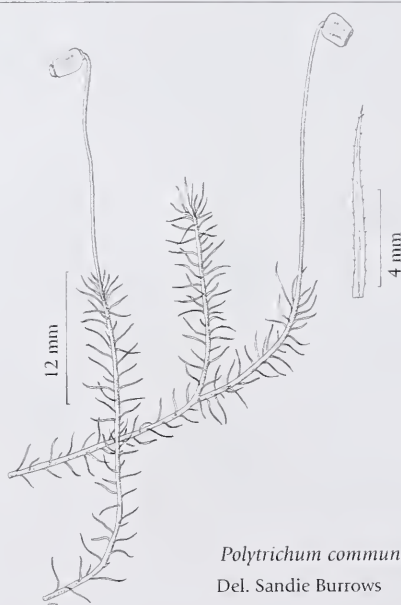
Lunularia cruciata (L.) Dumort. ex Lindb. ❖

Malawi. Nyika National Park, South Circular Route, steep bank of kloof, 10° 39' 35"S, 33° 49' 02"E, 2000, *Koekemoer 1817* (PRE); Juniper Forest,

along forest walk to huge junipers, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1898* (PRE).



Lunularia cruciata
Del. Sandie Burrows



Polytrichum commune
Del. Sandie Burrows

MARCHANTIACEAE

Marchantiaceae – genus unknown

10° 21' 41"S, 33° 47' 51"E, 2000, *Koekemoer 1874* (PRE).

Malawi. Nyika National Park, Jalawe Viewpoint, under overhanging rock,

PALLAVICINIACEAE

Pallavicinia lyellii (Hook.) Carruth.

Malawi. Nyika National Park, South Circular Route, 10° 39' 54"S, 33° 45' 06"E, 2000, *Koekemoer 1833* (PRE).

Pallavicinia cf. **lyellii**

Malawi. Nyika National Park, South Circular Route to Chelinda Bridge, 10° 39' 35"S, 33° 49' 02"E, 2000, *Koekemoer 1813* (PRE).

RICCIACEAE

Riccia sp.

37' 40"S, 33° 48' 21"E, 2000, *Koekemoer 1811* (PRE).

Malawi. Nyika National Park, South Circular Route to Chelinda Bridge, 10°

BRYOPHYTA

BARTRAMIACEAE

Philonotis africana (Müll.Hal.) Rehm ex Paris

Malawi. Nyika National Park, Chisanga Falls, 10° 32' 15"S, 33° 41' 12"E, 2000, *Koekemoer 1735* (PRE).

Bartramia sp.

Malawi. Nyika National Park, between Chelinda Bridge and Dembo River crossing, near bridge, 10° 32' 09"S, 33° 51' 17"E, 2000, *Koekemoer 1762* (PRE).

BRACHYTHECIACEAE

Brachythecium salebrosum (Hoffm. ex F.Weber & D.Möhr) Schimp.

Malawi. Nyika National Park, Juniper Forest, along streambank, 10° 45' 06" S, 33° 53' 15"E, 2000, *Koekemoer 1888* (PRE); Juniper Forest near river crossing, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1903* (PRE).

Brachythecium sp.

Malawi. Nyika National Park, South Circular Route between Kasaramba and Chelinda Camp, 10° 38' 09"S, 33° 52' 17"E, 2000, *Koekemoer 1820* (PRE).

Brachytheciaceae

Malawi. Nyika National Park, Chisanga Falls, 10° 32' 15"S, 33° 41' 12"E, 2000, *Koekemoer 1734* (PRE).

cf. **Brachytheciaceae**

Malawi. Nyika National Park, forest patch W. of Mpopoti turnoff from road between Chelinda and Nganda, 10° 29' 18"S, 33° 49' 17"E, 2000, *Koekemoer 1850* (PRE).

BRYACEAE

Anomobryum julaceum (Schrader. ex P.Gaertn, B.Mey. & Scherb.) Schimp.

Malawi. Nyika National Park, Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1916* (PRE); South Circular Route to Chelinda Bridge, 10° 37' 40"S, 33° 48' 21"E, 2000, *Koekemoer 1810* (PRE).

Anomobryum sp.

Malawi. Nyika National Park, South Circular Route to Chelinda Bridge, on bare rock in open patch in forest, 10° 39' 35"S, 33° 49' 02"E, 2000, *Koekemoer 1814* (PRE).

Brachymenium acuminatum Harv.

Malawi. Nyika National Park, along road to Juniper Forest, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1894* (PRE).

Bryum andicola Hook.

Malawi. Nyika National Park, South Circular Route, 10° 29' 18"S, 33° 49' 17"E, 2000, *Koekemoer 1845* (PRE).

Bryum argenteum Hedw.

Malawi. Nyika National Park, South Circular Route to Chelinda Bridge, on bare rock in open patch in forest, 10° 39' 35"S, 33° 49' 02"E, 2000, *Koekemoer 1814* (PRE); Chisanga Falls, forest floor on river-bank, 10° 32' 15"S, 33° 41' 12"E, 2000, *Koekemoer 1731* (PRE); Juniper Forest, downstream

from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1907* (PRE); Chisanga Falls, 10° 32' 15"S, 33° 41' 12"E, 2000, *Koekemoer 1733* (PRE).

Bryum torquescens Bruch ex De Not.

Malawi. Nyika National Park, forest patch W. of Mpopoti turnoff from road between Chelinda and Nganda, 10° 29' 18"S, 33° 49' 17"E, 2000, *Koekemoer 1848* (PRE).

Bryum sp.

Malawi. Nyika National Park, Chisanga Falls, 10° 32' 15"S, 33° 41' 12"E, 2000, *Koekemoer 1733* (PRE); Chisanga Falls, forest floor on river-bank, 10° 32' 15"S, 33° 41' 12"E, 2000, *Koekemoer 1730* (PRE); Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1908* (PRE); Chosi Viewpoint, amongst grass tufts, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer 1674* (PRE).

Rhodobryum cf. **keniae**

Malawi. Nyika National Park, in pine forest near Chelinda Camp site, on forest floor, 10° 35' 03"S, 33° 48' 03"E, 2000, *Koekemoer 1698* (PRE); Chisanga Falls, below top waterfall, between rocks, 10° 32' 15"S, 33° 41' 12"E, 2000, *Koekemoer 1729* (PRE).

Rhodobryum sp.

Malawi. Nyika National Park, Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1914* (PRE).

DICRANACEAE

Campylopus sp.

Malawi. Nyika National Park, Chisanga Falls, below top waterfall, 10° 32' 15"S, 33° 41' 12"E, 2000, *Koekemoer 1728* (PRE); South Circular Route at Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer 1790* (PRE); Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1910* (PRE); Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1908* (PRE); between Chelinda Bridge and Dembo River crossing, near bridge, 10° 32' 09"S, 33° 51' 17"E, 2000, *Koekemoer 1762* (PRE); South Circular Route at Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer 1788* (PRE); Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer*

1906 (PRE); Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, (1996) *Koekemoer 1905* (PRE).

Dicranella sp.

Malawi. Nyika National Park, road cutting near Chelinda Camp, 10° 35' 20"S, 33° 48' 41"E, 2000, *Koekemoer 1703* (PRE).

cf. **Metzleria** sp.

Malawi. Nyika National Park, South Circular Route to Chelinda Bridge, 10° 39' 35"S, 33° 49' 02"E, 2000, *Koekemoer 1812* (PRE).

DITRICHACEAE

Ditrichum sp.

Malawi. Nyika National Park, South Circular Route at Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer 1787* (PRE).

Pleuridium sp.

Malawi. Nyika National Park, Chosi Viewpoint, amongst grass tufts, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer 1674* (PRE); Chosi Viewpoint, amongst grass tufts, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer 1675* (PRE); South Circular Route to Chelinda Bridge, 10° 37' 40"S, 33° 48' 21"E, 2000, *Koekemoer 1810* (PRE).

ENTODONTACEAE

cf. Entodontaceae

Malawi. Nyika National Park, Juniper Forest, along path to large junipers, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1896* (PRE).

Erythrodontium sp.

Malawi. Nyika National Park, Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1906* (PRE).

FISSIDENTACEAE

Fissidens asplenioides Hedw.

Malawi. Nyika National Park, between Chelinda Bridge and Dembo River crossing, near bridge, 10° 32' 09"S, 33° 51' 17"E, 2000, *Koekemoer 1759* (PRE).

Fissidens ovatus Brid.

Malawi. Nyika National Park, Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1909* (PRE).

Fissidens near bryoides

Malawi. Nyika National Park, forest patch W. of Mpopoti turnoff from road between Chelinda and Nganda, 10° 29' 18"S, 33° 49' 17"E, 2000, *Koekemoer 1848* (PRE).

Fissidens sp.

Malawi. Nyika National Park, South Circular Route, 10° 39' 54"S, 33° 45' 06"E, 2000, *Koekemoer 1836* (PRE); South Circular Route at Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer 1791* (PRE).

FUNARIACEAE

Funaria hygrometrica Hedw.

Malawi. Nyika National Park, Nganda Hill, 10° 26'S, 33° 50'E, *Phiri 3664*;

South Circular Route to Chelinda Bridge, on bare rock in open patch in forest, 10° 39' 35"S, 33° 49' 02"E, 2000, *Koekemoer 1814* (PRE); Chisanga Falls, 10° 32' 15"S, 33° 41' 12"E, 2000, *Koekemoer 1733* (PRE).

GIGASPERMACEAE

Gigaspermum repens (Hook.) Lindb.

Malawi. Nyika National Park, Chosi Viewpoint, amongst grass tufts, 10°

36' 46"S, 33° 45' 24"E, 2000, *Koekemoer 1674* (PRE); Chosi Viewpoint, amongst grass tufts, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer 1675* (PRE).

HEDWIGIACEAE

Braunia secunda (Hook.) Bruch & Schimp.

Malawi. Nyika National Park, Juniper Forest, downstream from the bridge,

10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1906* (PRE).

HYPNACEAE

Hypnaceae – genus unknown

Malawi. Nyika National Park, in pine forest near Chelinda Camp site, on forest floor, 10° 35' 03"S, 33° 48' 03"E, 2000, *Koekemoer 1701* (PRE); South Circular Route, 10° 39' 35"S, 33° 49' 02"E, 2000, *Koekemoer 1818* (PRE); between Kasaramba and Chelinda Camp, on fallen tree trunk, 10° 38' 09"S, 33° 52' 17"E, 2000, *Koekemoer 1823* (PRE); South Circular Route, 10° 39' 54"S, 33° 45' 06"E, 2000, *Koekemoer 1835* (PRE); Juniper Forest,

along forest walk to huge junipers, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1897* (PRE).

cf. Hypnaceae

Malawi. Nyika National Park, Juniper Forest, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1890* (PRE); Juniper Forest near river crossing, 10° 45' 06" S, 33° 53' 15"E, 2000, *Koekemoer 1901* (PRE).

LEUCOBRYACEAE

Leucobryum sp.

Malawi. Nyika National Park, Chisanga Falls, close to upper falls, 10° 32'

15°S, 33° 41' 12"E, 2000, *Koekemoer 1736* (PRE).

METEORIACEAE

Meteoriaceae (Aerobryopsis?)

Malawi. Nyika National Park, in pine forest near Chelinda Camp site, on

forest floor, 10° 35' 03"S, 33° 48' 03"E, 2000, *Koekemoer 1700* (PRE).

MNIACEAE

Plagiomnium rhynchophorum (Hook.) T.J.Kop. var. **reidii** (Dixon) T.J.Kop.

Malawi. Nyika National Park, forest patch W. of Mpopoti turnoff from road between Chelinda and Nganda, 10° 29' 18"S, 33° 49' 17"E, 2000, *Koekemoer 1847* (PRE); South Circular Route between Kasaramba and Chelinda Camp, 10° 38' 09"S, 33° 52' 17"E, 2000, *Koekemoer 1821* (PRE).

Pohlia sp.

Malawi. Nyika National Park, South Circular Route at Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer 1787* (PRE); South Circular Route at Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer 1791* (PRE).

ORTHOTRICHACEAE

Macromitrium sp.

Malawi. Nyika National Park, Chisanga Falls, close to waterfall, 10° 32'

15°S, 33° 41' 12"E, 2000, *Koekemoer 1732* (PRE).

PILOTRICHACEAE

Cyclodictyon sp.

Malawi. Nyika National Park, South Circular Route, 10° 39' 35"S, 33° 49' 02"E, 2000, *Koekemoer 1816* (PRE); South Circular Route, 10° 39' 54"S,

33° 45' 06"E, 2000, *Koekemoer 1832* (PRE); South Circular Route, 10° 39' 54"S, 33° 45' 06"E, 2000, *Koekemoer 1834* (PRE).

PLAGIOTHECIACEAE

Plagiothecium sp.

Malawi. Nyika National Park, Juniper Forest, along forest walk to huge junipers, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1897* (PRE).

cf. **Plagiotheciaceae**

Malawi. Nyika National Park, Juniper Forest near river crossing, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1902* (PRE).

POLYTRICHACEAE

Pogonatum cf. **penichaetiale**

Malawi. Nyika National Park, road cutting near Chelinda Camp, 10° 35' 20"S, 33° 48' 41"E, 2000, *Koekemoer 1702* (PRE); South Circular Route at Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer 1787* (PRE).

Pogonatum sp.

Malawi. Nyika National Park, road cutting near Chelinda Camp, 10° 35' 20"S, 33° 48' 41"E, 2000, *Koekemoer 1703* (PRE).

Polytrichum commune Hedw. ✧

Malawi. Nyika National Park. South Circular Route at Chelinda Bridge, streamside, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer 1782* (PRE).

Polytrichum subpilosum P.Beauv.

Malawi. Nyika National Park, Lake Kaulime, 10° 34'S, 33° 45'E, 2000, *Phiri 3702* (UZL).

Zambia. Nyika National Park, near Chowo Forest, 10° 35'S, 33° 41'E, 2000, *Phiri 4000* (UZL).

POTTIACEAE

Leptodontium near **viticulosoides**

Malawi. Nyika National Park, Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1911* (PRE).

Leptodontium sp.

Malawi. Nyika National Park, Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1906* (PRE); Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, (1996) *Koekemoer 1905* (PRE).

Tortella cf. **xanthocarpa**

Malawi. Nyika National Park, Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1913* (PRE).

Pottiaceae

Malawi. Nyika National Park, forest patch W. of Mpopoti turnoff from road between Chelinda and Nganda, 10° 29' 18"S, 33° 49' 17"E, 2000, *Koekemoer 1848* (PRE).

Pottiaceae

Malawi. Nyika National Park, South Circular Route at Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer 1791* (PRE).

PTERIGYNANDRACEAE

Trachyphyllum sp.

Malawi. Nyika National Park, Juniper Forest, downstream from the bridge,

10° 45' 06"S, 33° 53' 15"E, (1996) *Koekemoer-1905* (PRE).

RACOPILACEAE

Racopilum capense Müll.Hal. ex Broth.

10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1913* (PRE).

Malawi. Nyika National Park, Juniper Forest, downstream from the bridge,

SEMATOPHYLLACEAE

Sematophyllum subpinnatum (Brid.) E.Britton

Sematophyllaceae

Malawi. Nyika National Park, South Circular Route at Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer 1789* (PRE).

Malawi. Nyika National Park, road between Chelinda Camp and Kasaramba, 10° 38' 09"S, 33° 52' 17"E, 2000, *Koekemoer 1819* (PRE).

SPHAGNACEAE

Sphagnum africanum Welw. & Duby

Phiri 3703 (UZL).

Malawi. Nyika National Park, Lake Kaulime, 10° 34'S, 33° 45'E, 2000,

SPLACHNACEAE

Tayloria orthodonta (P.Beauv.) Wijk & Margad.

forest floor, 10° 35' 03"S, 33° 48' 03"E, 2000, *Koekemoer 1699* (PRE).

Malawi. Nyika National Park, in pine forest near Chelinda Camp site, on

THUIDIACEAE

Thuidium sp.

junipers, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1897* (PRE).

Malawi. Nyika National Park, Juniper Forest, along forest walk to huge

UNIDENTIFIED LEAFY LIVERWORTS

Malawi. Nyika National Park, Chisanga Falls, close to upper falls, 10° 32' 15"S, 33° 41' 12"E, 2000, *Koekemoer 1737* (PRE).

Malawi. Nyika National Park, Juniper Forest, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1889* (PRE).

Malawi. Nyika National Park, between Chelinda Bridge and Dembo River crossing, near bridge, 10° 32' 09"S, 33° 51' 17"E, 2000, *Koekemoer 1764* (PRE).

Malawi. Nyika National Park, Juniper Forest, downstream from the bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer 1915* (PRE).

Malawi. Nyika National Park, between Chelinda Camp and Dembo River crossing, 10° 31' 54"S, 33° 50' 47"E, 2000, *Koekemoer 1771* (PRE).

Malawi. Nyika National Park, South Circular Route between Kasaramba and Chelinda Camp, 10° 38' 09"S, 33° 52' 17"E, 2000, *Koekemoer 1821* (PRE).

Malawi. Nyika National Park, South Circular Route at Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer 1788* (PRE).

Malawi. Nyika National Park, South Circular Route to Chelinda Bridge, 10° 37' 40"S, 33° 48' 21"E, 2000, *Koekemoer 1810* (PRE).

Malawi. Nyika National Park, South Circular Route, 10° 39' 35"S, 33° 49' 02"E, 2000, *Koekemoer 1815* (PRE).

Malawi. Nyika National Park, road between Chelinda Camp and Kasaramba, 10° 38' 09"S, 33° 52' 17"E, 2000, *Koekemoer 1819* (PRE).

Malawi. Nyika National Park, South Circular Route between Kasaramba and Chelinda Camp, 10° 38' 09"S, 33° 52' 17"E, 2000, *Koekemoer 1822* (PRE).

Malawi. Nyika National Park, Chisanga Falls, 10° 32' 15"S, 33° 41' 12"E, 2000, *Koekemoer 1734* (PRE).

Malawi. Nyika National Park, at Mpopoti turnoff forest patch, W. of turnoff on road to Nganda, 10° 29' 18"S, 33° 49' 17"E, 2000, *Koekemoer 1846* (PRE).

Malawi. Nyika National Park, middle slopes of path between viewpoint and Chisanga Falls, in miombo woodland, 10° 32' 31"S, 33° 41' 07"E, 2000, *Koekemoer 1739* (PRE).

Malawi. Nyika National Park, forest patch W. of Mpopoti turnoff from road between Chelinda and Nganda, 10° 29' 18"S, 33° 49' 17"E, 2000, *Koekemoer 1849* (PRE).

Malawi. Nyika National Park, Jalawe Viewpoint, near the top, 10° 21' 41"S, 33° 47' 51"E, 2000, *Koekemoer 1877* (PRE).

***Asplenium aethiopicum* (Burm.f.) Becherer**

Terrestrial or lithophytic fern, rhizome creeping; frond 2-pinnate to 3-pinnate, ultimate segments lanceolate, acute to caudate; sori linear, to 8 mm long; a widespread fern of evergreen forests, rocky hills in grassland, and along streams in woodland; very variable in form according to habitat; 1,000–2,200 m. Throughout the moister parts of Africa.

Source. Schelpe (1970: 182).

Malawi. Nyika Plateau, Rufiri Stream, 1959, *Robson 443* (K, SRGH); Dembo Bridge, 2000, *Willis 20* (PRE).

Zambia. Nyika Plateau, Kangampande Mountain, 1952, *White 2734* (BOL, K); Manyenere Forest, 2000, *Phiri 3907* (UZL).

***Asplenium boltonii* Hook. ex Schelpe**

Terrestrial fern, rhizome erect with tufted fronds; fronds gemmiferous at base of apical pinna, pinnate, pinnae in up to 28 pairs, margins irregularly dentate; sori broadly elliptic, to 4 mm long; in montane forests; 1,800–2,200 m. South Africa through eastern Africa; also in Madagascar and Réunion. Rare on Nyika and only recorded from the two listed localities.

Malawi. Nyika Plateau. Zovochipolo (Dowsett-Lemaire 1985: 318).

Zambia. Nyika Plateau, Chowo Forest (Dowsett-Lemaire 1985: 318).

***Asplenium dregeanum* Kunze**

Lithophytic or epiphytic fern, rhizome erect; frond to 390 x 60 mm, deeply 2-pinnatifid, ultimate segments narrowly oblong-obtuse; sori *ca* 2 mm long, elliptic; in montane forests; 1,950–2,150 m. South Africa and widespread in tropical Africa.

Source. Dowsett-Lemaire (1985: 372).

Malawi. Nyika Plateau, without precise locality, *Dowsett-Lemaire 225* (?K).

Zambia. Nyika Plateau, 9 km S.W. of Rest House, 1958, *Robson & Angus 345* (K, LISC, SRGH); Manyenere Forest, 2000, *Phiri 3904* (PRE, UZL).

***Asplenium erectum* Bory ex Willd. var. *erectum* ✧**

Tufted terrestrial fern, fronds narrowly oblong, to 290 x 35 mm, pinnate, pinnae with basal lobe not free; sori 1.0–2 mm long, narrowly oblong; in deep shade of evergreen mist forest; 0–1,700 m. South Africa, Mozambique, and Malawi; also in Madagascar and the Mascarene islands. This is the first record of this fern for Malawi.

Source. Burrows (1990: 223)

Malawi. Nyika National Park, Zovochipolo Forest, 2000, *Burrows & Burrows 6892* (Buffelskloof Herbarium).

Asplenium erectum* Bory ex Willd. var. *usambarense

(Hieron.) Schelpe

As for *A. erectum* var. *erectum*, but with the fronds linear and the basal lobes of the pinnae free; a terrestrial fern of deeply shaded forest floors in montane forest; 1,500–2,500 m. South Africa and through much of tropical Africa.

Source. Kornas (1979: 98).

Malawi. Nyika Plateau, Kasaramba Peak, *Simon, Williamson & Ball 1728* (K); Zovochipolo, 2000, *Burrows & Burrows 6892* (MAL, NBG, UZL).

Zambia. Nyika Plateau, Manyenere Forest, 2000, *Phiri 3906* (UZL).

***Asplenium friesiorum* C.Ch.**

Terrestrial fern forming clumps, rhizome widely creeping; fronds to 900 x 260 mm, pinnate; sori oblong, to 4 mm long; in wet mist forest and scrub; 1,700–2,300 m. South Africa and widespread in tropical Africa. One of the three most common ground ferns of the eastern escarpment away from streams (Dowsett-Lemaire 1985), but not so far recorded from the Zambian Nyika.

Source. Schelpe (1970: 178).

Malawi. Nyika Plateau, without precise locality, 1946, *Brass 17273* (K, SRGH); Mpopot, 2000, *Mwanyambo 559* (MAL).

***Asplenium hypomelas* Kuhn**

Rhizome erect with tufted fronds; fronds large, to 1 m long, 0.5 m wide,

deeply 4-pinnatifid; sori elliptic, on edge of ultimate lobes; a fern of very wet mist forest in ravines, almost invariably found growing on the lower trunks of the tree fern *Cyathea manniana*; 1,830–2,300 m. Widespread in tropical Africa.

Source. Schelpe (1970: 188).

Malawi. Nyika Plateau, without precise locality, 1946, *Brass 17274* (BM, K, SRGH).

Zambia. Nyika Plateau, Manyenere Forest, 2000, *Phiri 4031* (UZL).

***Asplenium linckii* Kuhn**

Terrestrial fern, rhizome creeping; fronds more or less tufted, to 330 x 270 mm, 3- to 4-pinnate, margins sharply serrate; sori linear, 3–4 mm long; in deeply shaded and moist forest floors; 1,500–2,000 m. Zimbabwe northwards through eastern Africa. Rare.

Malawi. Nyika Plateau, Mwenembwe Forest, *Dowsett-Lemaire 778* (MAL).

Asplenium lobatum* Pappe & Raws. var. *lobatum

Terrestrial fern, rhizome erect; fronds tufted, erect, not proliferous, to 350 x 120 mm, 2-pinnate to 3-pinnatifid, margins coarsely serrate; sori linear, to 4 mm long; on deeply shaded forest floors; 2,125–2,225 m. South Africa to Malawi; also in Madagascar. Rare, possibly represented on the Nyika by a single specimen.

Source. Dowsett-Lemaire (1985: 318).

Malawi. Nyika Plateau, Zovochipolo, *Dowsett-Lemaire 215* (?K).

***Asplenium loxoscaphoides* Baker ●**

Rhizome erect; fronds tufted, to 450 mm long, deeply 2-pinnatifid to 3-pinnatifid; sori elliptic, single on the edge of the ultimate lobes; an epiphytic or terrestrial fern of montane forests and thickets; 2,100 m. Reasonably widespread in the moist forests of the Nyika; the only locality from the *Flora zambesiaca* area; otherwise confined to E. Africa. *A. loxoscaphoides* is regarded by some (R. Johns, pers. comm.) as merely a form of *A. rutilifolium*, but we prefer to recognise it as a distinct species for now.

Source. Schelpe (1970: 187).

Malawi. Nyika Plateau, 6 km from Zambia Rest House on Chelinda Road, *Simon, Williamson & Ball 1802* (BOL, SRGH); Juniper Forest Reserve, 2000, *Burrows & Burrows 6935* (K, MAL, NBG, UZL).

***Asplenium lunulatum* Sw.**

Terrestrial fern; rhizome erect to procumbent; fronds tufted, pinnate, 150–350 mm long, linear-lanceolate, gemmiferous at the apex on some fronds; sori linear to slightly curved, 2–3 mm long; in deep shade of montane forest; *ca* 2,300 m. Very rare and only known from this locality. The northernmost record of this mainly South African species. The taxonomy of this complex is still unsettled.

Source. Dowsett-Lemaire (1985: 373).

Malawi. Nyika Plateau, Mwenembwe Forest, *Dowsett-Lemaire 785* (?K).

***Asplenium mannii* Hook.**

Small epiphytic fern spreading by means of a long, widely creeping wire-like rhizome; fronds erect, 2-pinnatifid to pinnate basally, to pinnate, lanceolate; sori oval, 1.5–2 mm long, 1 per lobe margin; in moist evergreen forest, often common; 1,200–2,200 m. Widespread in tropical Africa; also Madagascar.

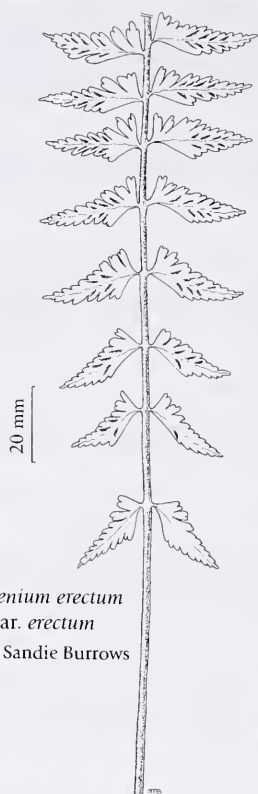
Source. Dowsett-Lemaire (1979: 321).

Malawi. Nyika Plateau, Juniper Forest Reserve area, 2000, *Burrows & Burrows 6938* (K, MAL, NBG, UZL).

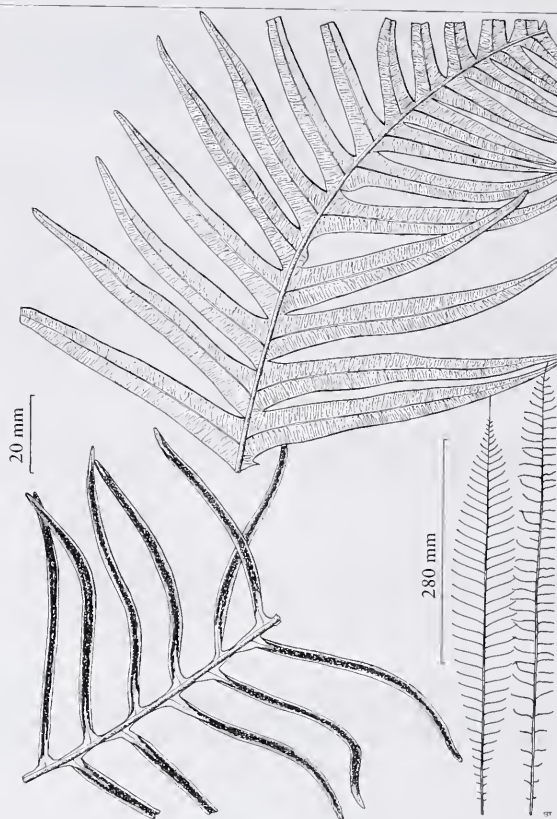
Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White 2710* (BM, K); Chowo Forest, 2000, *Phiri 4023* (PRE, UZL).

***Asplenium megalura* Hieron. ●**

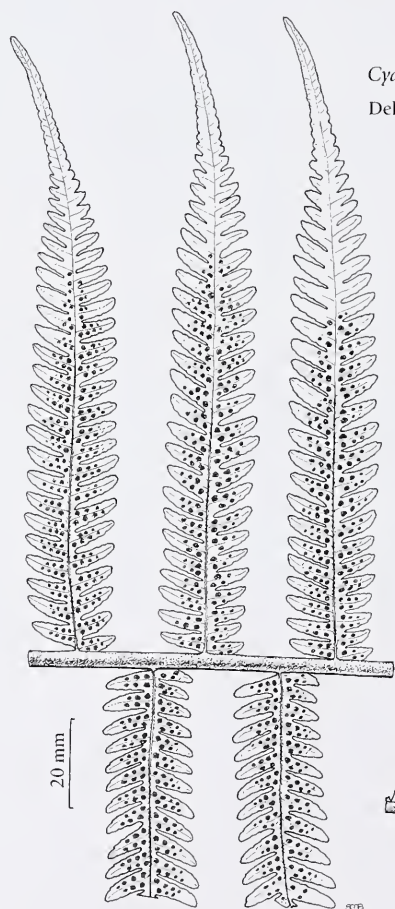
Rhizome erect; fronds tufted, often pendulous in forest habitats, pinnate, to 450 x 120 mm, apical segment often tricuspidate; sori linear, to 8 mm long; an epiphyte of moist evergreen mist forest, fronds shrivelling in win-



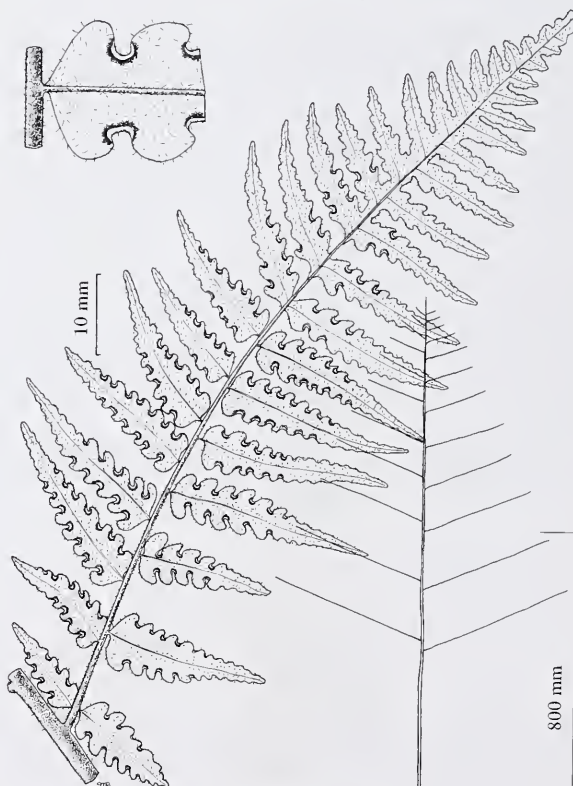
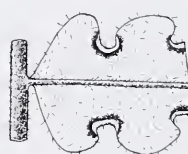
Asplenium erectum
var. *erectum*
Del. Sandie Burrows



Blechnum attenuatum var.
attenuatum
Del. Sandie Burrows



Cyathea manniana
Del. Sandie Burrows



Blotiella natalensis
Del. Sandie Burrows

ter; 1,370–2,200 m. N. Zambia, Malawi, and N. Mozambique northwards through tropical Africa. Fairly common on the Nyika.

Source. Schelpe (1970: 181).

Malawi. Nyika Plateau, Rukuru Waterfall, 1959, *Robinson 3097* (SRGH); road to Chelinda Bridge, 2000, *Burrows & Burrows 6887* (NBG).

Zambia. Nyika Plateau, Chowo Rocks, *Simon, Williamson & Ball 1671* (K); Chowo Forest, 2000, *Phiri 4021* (UZL).

***Asplenium monanthes* L.**

Rhizome more or less erect; fronds tufted with black stripes, to 300 x 25 mm, linear, pinnate, pinnae oblong-dimidiate; sori 1, rarely 2, per pinna, narrowly oblong; a terrestrial fern of shaded forest floors, fairly widespread on the Nyika; 1,830–2,400 m. South Africa northwards, somewhat sporadically, through tropical Africa; also in S. America.

Source. Schelpe (1970: 175).

Malawi. Nyika Plateau, Rufiri Stream, 1958, *Robson 441* (K, LISC, SRGH).

***Asplenium protensum* Schrad.**

Rhizome creeping with spaced fronds; fronds long, arching, proliferous near the tip and often rooting where the plantlets touch soil; fronds pinnate, finely hairy; sori linear to narrowly oblong, to 5 mm long; lithophytic on mossy rocks, often near streams in wet evergreen forest; 1,300–2,300 m. South Africa and widespread in tropical Africa.

Source. Schelpe (1970: 179).

Malawi. Nyika Plateau, Rufiri Stream, 1958, *Robson & Angus 444* (K, LISC, SRGH); Zovochipolo Forest, 2000, *Burrows & Burrows 6894* (MAL, NBG).

Zambia. Nyika Plateau, without precise locality, *Robinson 3021* (K).

***Asplenium sandersonii* Hook.**

Rhizome more or less erect, fronds tufted, arching, with a proliferating bud on the end of a naked extension of the rachis, pinnate, pinnae oblong, margins lobed acroscopically; sori 2 mm long, oblong, up to 5 mm per pinna; epiphytic in evergreen montane forest; 1,850–2,000 m on Nyika. South Africa and sporadically in tropical Africa. Very rare on Nyika.

Malawi. Nyika Plateau, without locality or collecting details (*Dowsett-Lemaire 1985: 356–357*).

***Asplenium smedsii* Pic.Serm.**

Tufted fern with pinnate fronds; sori linear to elliptic; an occasional to locally frequent epiphytic fern in the Zovochipolo forests; 2,125–2,225 m. Not collected elsewhere on the plateau or elsewhere from the *Flora zambesiaca* area; also in E. Africa.

Source. Dowsett-Lemaire (1985: 373).

Malawi. Nyika Plateau, Zovochipolo, *Dowsett-Lemaire 213* (?K).

***Asplenium theciferum* (H.B.K.) Mett. var. *concinnum* (Schrad.) C.Ch.**

Rhizome erect; fronds tufted, erect to arching, to 200 x 45 mm, deeply 2-pinnatifid with obliquely spatulate lobes; sori oblong, set at the ends of the lobes; an epiphyte in evergreen montane forest or swamp forest; 1,200–2,400 m. South Africa, Zimbabwe, Mozambique, Malawi, and Zambia.

Source. Kornas (1979: 104).

Malawi. Nyika Plateau, Jalawe Viewpoint, 2000, *Thera 3072* (MAL); without precise locality, *Chapman 88* (BM).

BLECHNACEAE

***Blechnum attenuatum* (Sw.) Mett. var. *attenuatum* ✧**

Rhizome creeping, less than 20 mm diameter, fronds arching, pinnate, the bases of the pinnae adnate to the rachis, pinnae narrowly lanceolate-attenuate; fronds dimorphic, the fertile fronds with the pinnae narrowly contracted, linear, with narrowly linear sori running the length of the pinna; lithophyte, epiphyte or (rarely) terrestrial, in forest or wet scrub, often along streams or on cliffs along drip-lines or next to waterfalls; 1,800–2,200 m. South Africa to Zambia and Kenya.

Malawi. Nyika Plateau, Nyamkhowa Forest, *Dowsett-Lemaire 535* (MAL).

***Blechnum australe* L.**

Small tufted fern, often in groups, rhizome creeping; fronds tufted, arching, to 470 x 125 mm, pinnate, pinnae narrowly oblong, apex mucronate, the acroscopic base often lobed; fertile fronds with linear pinnae, sori linear, extending most of the length of the pinnae; in riverine forest; 0–2,200 m.

South Africa to Kenya; also on Madagascar, Gough Island, and Tristan da Cunha. First record for Malawi (N.).

Malawi. Nyika National Park, Wovwe River, 2000, *Burrows & Burrows 6907* (MAL, NBG, SRGH, UZL).

***Blechnum tabulare* (Thunb.) Kuhn**

Rhizome procumbent to sub-erect, to 0.9 m long and 100 mm thick; fronds tufted, pinnate, pinnae oblong-linear, base sessile; fertile fronds much shorter than the sterile fronds, pinnae narrowly oblong, sori linear, continuous along the length of the pinnae; a terrestrial fern of montane grasslands, on steep S.E. aspect slopes, forest margins or near streams; 1,300–2,350 m. South Africa to Angola, D.R.C., and Tanzania; also on Madagascar.

Malawi. Nyika Plateau, Lake Kaulime, 2000, *Phiri 3728* (UZL); Chelinda Bridge, 2000, *Thera 3034* (MAL).

Zambia. Nyika Plateau, without precise locality, *Fanshawe 7279* (NDO).

CYATHEACEAE

***Cyathea dregei* Kunze**

Large tree fern with a stout blackish trunk 200–450 mm thick and to 5 m tall; leaves 3-pinnatifid to 3 pinnate, stipe scales up to 40 mm long; sori round, borne along each side of the costule; along stream banks in montane grassland, in full sun or light shade; 900–1,800 m. Throughout most of tropical Africa; also in Madagascar.

Source. Schelpe (1970: 74).

Malawi. Nyika Plateau, Mwanda Mountain, *Willis & Luhanga 176* (PRE).

Zambia. Nyika Plateau, 4 km S.W. of Rest House, 1958, *Robson 316* (BM, K, LISC, SRGH).

***Cyathea manniana* Hook. ✧**

Tall tree fern with a slender stem up to 7 m tall; fronds 3-pinnatifid, dark green above, pale to glaucous below, stipes set with short, sharp prickles; sori round, set close against the costules; in very wet areas in evergreen mist forest, often forming colonies by means of suckers; 1,400–2,300 m. Zim-

babwe northwards most of the wetter parts of tropical Africa.

Source. Schelpe (1970: 74).

Malawi. Nyika Plateau, eastern foot of Nganda, 1972, *Brummitt, Munthali & Syngae 83* (K).

Zambia. Nyika Plateau, 9 km S.W. of Rest House, 1958, *Robson 344* (BM, K, LISC, MPR, NDO, SRGH).

***Cyathea thomsonii* Baker**

Small tree fern with a short trunk ca 150 mm thick; fronds 2-pinnate with pinnules adnate to the costae, or 3-pinnatifid, stipe scales up to 20 mm long; sori round, set in 2 rows on either side of the costule; on shaded stream banks in forest and wet woodland; 600–1,500 m. Zimbabwe northwards to Angola, D.R.C., and Tanzania.

Source. Dowsett-Lemaire (1985: 373).

Malawi. Nyika Plateau, without precise locality, *Dowsett-Lemaire 793* (herbarium not stated); Kaulime Road, N. of Lake Kaulime, *Willis 103* (PRE).

DENNSTAEDTIACEAE

***Blotiella natalensis* (Hook.) Tryon ✧**

Large terrestrial fern, rhizome erect, 150–250 mm diameter; fronds tufted,

2-pinnatifid to 3-pinnatifid, to 2 m long, sparsely hairy on both surfaces; sori marginal in the sinuses between the ultimate lobes, indusiate; in montane

forest, often near streams; 1,000–1,900 m. South Africa to D.R.C., Uganda, and Tanzania. The Nyika collection has no rhizome and therefore its identity is uncertain.

Malawi. Nyika Plateau, Kasyaula Forest, *Dowsett-Lemaire* 217 (MAL).

Pteridium aquilinum* (L.) Kuhn var. *aquilinum

bracken

Terrestrial fern with a slender subterranean creeping rhizome; fronds widely-spaced, erect, stiff, 3-pinnatifid to 4-pinnate, usually finely hairy below, pinnule apices not noticeably elongated; sori marginal, continuous, indusiate; a common terrestrial fern of montane grasslands and forest margins, forming extensive colonies and sometimes considered invasive. Throughout the

world in temperate regions.

Malawi. Nyika Plateau, Majimbula, *Salubeni* 732 (MAL).

***Pteridium aquilinum* (L.) Kuhn var. *centrali-africanum* Hieron. ✧**

As for *P. aquilinum* var. *aquilinum*, but with completely hairless fronds, the pinnules of which reminate in conspicuously elongated segments; in high-rainfall miombo woodland. Said to be mentioned in *Evergreen Forests of Malawi* (1970), but the reference to this subspecies not found by the authors.

Malawi. Eastern escarpment of Nyika, Mwenembwe (Kornas 1979: 84).

DRYOPTERIDACEAE

***Arachniodes foliosa* (C.Ch.) Schelpe ✧**

Terrestrial fern, rhizome creeping; fronds arching, leathery, 2-pinnatifid to 4-pinnatifid on the basiscopically-developed basal pair of pinnae, margins sharply serrate, upper surface glossy dark green; sori round, indusium circular; on deeply shaded streams in moist forest, sometimes near waterfalls; rare; 1,700–2,200 m. South Africa northwards along the Afromontane mountain chain to Kenya.

Malawi. Nyika Plateau, Zovochipolo, *Dowsett-Lemaire* 302 (MAL).

Zambia. Nyika Plateau, Chowo Forest, *Pawek* 2212 (K).

***Athyrium schimperii* Mougl. ex Fée ✧**

Terrestrial fern, rhizome shortly creeping, branching; fronds closely-spaced, 3-pinnatifid to 3-pinnate, basal pinnae reduced in size, margins incised to serrate; sori curved, elongate or J-shaped, indusiate; on moist, protected banks near streams and in montane grassland or moist woodlands; 1,020–2,300 m. South Africa to Ethiopia and Ghana; also on Madagascar. Fairly common on Nyika.

Malawi. Nyika Plateau, Chelinda Camp, 2000, *Burrows & Burrows* 6949 (MAL, NBG, PRE, SRGH, UZL); without precise locality, *Pawek* 11242 (MAL).

Zambia. Nyika Plateau, Rest House area, 2000, *Phiri* 3764 (UZL).

***Didymochlaena truncatula* (Sw.) J.Sm. ✧**

Large terrestrial fern, rhizome large, up to 250 mm diameter; fronds tufted, up to 2 m x 0.5 m, 2-pinnate, pinnae more or less rectangular; sori 4–6 per pinnule, oval, indusiate; in very deeply shaded areas in wet forest, along streams or on seepage zones; 1,100–2,000 m. Throughout the African tropics; also in Asia and tropical America. Often growing with *Diplazium zanzibaricum* and *Thelypteris madagascariensis*.

Malawi. Nyika Plateau, Kasyaula Forest, *Dowsett-Lemaire* 216 (MAL).

***Diplazium zanzibaricum* (Baker) C.Ch. ✧**

Large terrestrial fern, rhizome erect, trunk-like, to 150 mm thick and 600 mm tall; fronds tufted, ovate, to 1.5 x 1.2 m, 3-pinnatifid to 3-pinnate, margins serrate; sori oval to linear, indusiate; on deeply shaded forest floors, often near water; 1,100–2,150 m. South Africa to Tanzania and westwards throughout W. Africa; also on the Comoros and Réunion.

Source. Burrows 276 (1990).

Malawi. Nyika Plateau, Mwenembwe Forest, *Dowsett-Lemaire* 781 (MAL).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White* 2767 (BM, K).

***Dryopteris athamantica* (Kunze) Kuntze**

Terrestrial fern, rhizome shortly creeping; fronds tufted, erect, 3-pinnatifid to 3-pinnate, pinnae set at 45° or less to the rachis; sori round, 1–3 per lobe, indusiate; in montane grasslands, often in full sun or in aardvark holes or on earth banks, replaced in shaded situations by the similar *D. inaequalis*; 1,200–2,400 m. Widespread in tropical Africa.

Source. Schelpe (1970: 221).

Malawi. Nyika Mountains, without precise locality, 1896, *Whyte* s.n. (K); Juniper Forest Reserve, 2000, *Chikuni* 509 (MAL).

***Dryopteris inaequalis* (Schlechtld.) Kuntze ✧**

Terrestrial fern, rhizome prostrate, 8–35 mm thick; fronds tufted, arching, ovate to lanceolate, 3-pinnatifid to 4-pinnatifid, pinnae set at 70–80° from

the rachis; sori round, set in 2 rows along the costules, indusiate; in shaded areas in forest, forest margins, stream banks, and moist woodland; 730–2,400 m. Throughout much of tropical Africa; also in Madagascar. A variable species, probably dividable into a number of smaller taxa.

Source. Kornas (1979: 109).

Malawi. Nyika Plateau, Rufiri River, 5.6 km from Rest House, *Robson* 442 (K); Dembo Bridge, 2000, *Willis* 19 (PRE).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White* 2725 (K).

***Dryopteris kilemensis* (Kuhn) Kuntze**

Terrestrial fern, rhizome creeping, then ascending; fronds tufted, arching, broadly triangular, 4-pinnatifid to 4-pinnate, basal pinnae basiscopically-developed, margins serrate, costae with scattered ovate scales; sori round, to 1 mm diameter, indusiate; in shaded forest clearings and forest margins in high-rainfall areas; 1,890–2,350 m. Zimbabwe northwards to Kenya.

Source. Schelpe (1970: 223).

Malawi. Nyika Plateau, without precise locality, 1946, *Brass* 17285 (K, SRGH).

***Dryopteris squamiseta* (Hook.) Kuntze**

Terrestrial fern, rhizome erect; fronds tufted, stipes pale, densely set with stiff hair-like scales which stand out at right angles from the stipe, lamina 3-pinnate to 4-pinnatifid; sori round, characteristically confined to the ends of the lobes; on shaded stream banks and seepage zones in forest; 1,580–2,200 m. South Africa northwards to Cameroon, Kenya, and Sudan; also on Madagascar and the Mascarenes.

Source. Burrows (1990: 307).

Malawi. Nyika Plateau, Zovochipolo (Dowsett-Lemaire 1985: 372).

Zambia. Nyika Plateau, Chowo Forest, *Pawek* 2213 (K).

***Megalastrum lanuginosum* (Willd. ex Kaulf.) Holttum ✧**

Ctenitis lanuginosa (Willd. ex Kaulf.) Copel.

Robust terrestrial fern, rhizome erect, stout; fronds arching, triangular, to 2 m long, 3- to 4-times divided, thinly hairy on both surfaces; sori round, to 2 mm diameter, indusium kidney-shaped; in deep shade of forest near streams; 100–1,900 m. South Africa to Kenya; also on Madagascar and Bioko. This is the first record for the Nyika Plateau and for Zambia.

Zambia. Nyika Plateau, Chowo Forest, 2000, *Phiri* 4024 (PRE, UZL).

***Polystichum transvaalense* N.C. Anthony**

Polystichum setiferum (Forssk.) Moore ex Woytnar

Terrestrial fern, rhizome erect, fronds tufted, shuttlecock-like, erect to arching, ca 350 x 140 mm, 2-pinnate to 3-pinnatifid, upper surface dark green, glossy, hairless, margins with hair-tipped serrations; sori round, 1–1.5 mm diameter, indusiate; in evergreen forest, usually along shaded streams; 2,225 m. South Africa to Cameroon, Kenya, and Sudan.

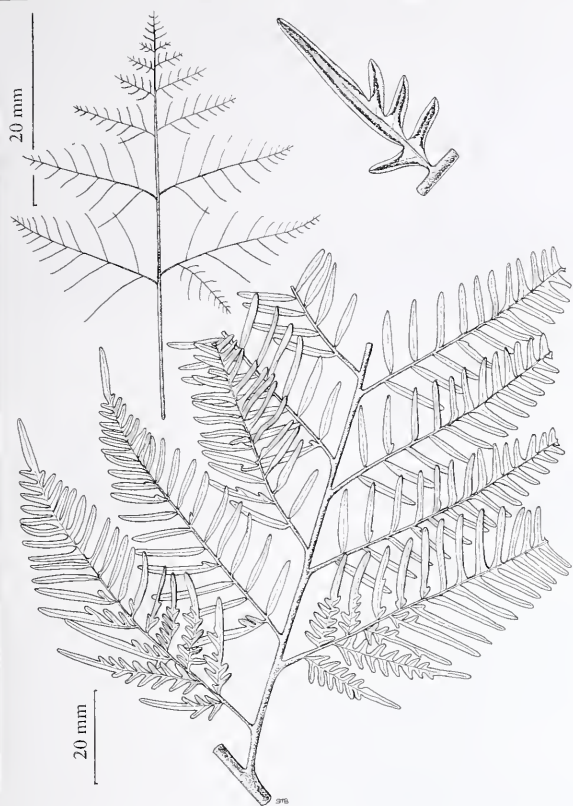
Source. Roux (1998).

Malawi. Nyika, Zovochipolo, *la Croix* 4634 (PRE).

Zambia. Nyika Plateau, Chowo Forest, *Dowsett-Lemaire* 220 (K).

***Polystichum zambesiaceum* Schelpe ✧**

Very similar to *P. transvaalense*, but with the fronds closely spaced, but not shuttlecock-like, and the pinnule margins serrate-crenate, not hair-tipped;



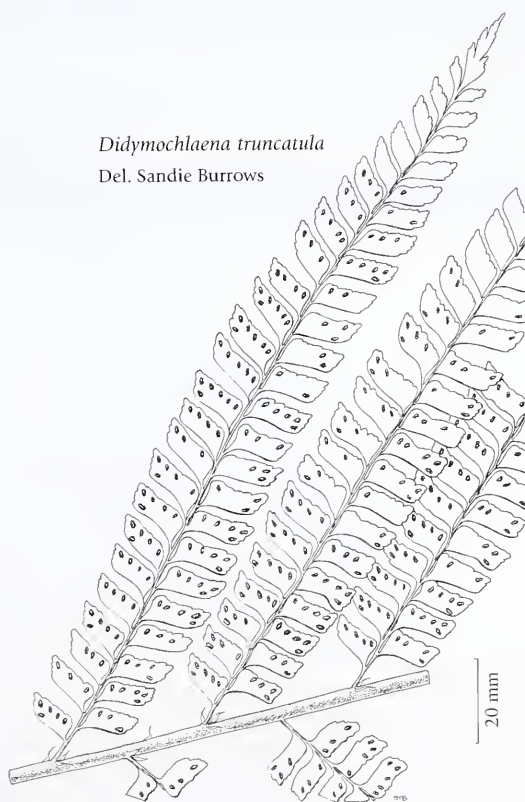
Pteridium aquilinum var. *centrali-africanum*
Del. Sandie Burrows



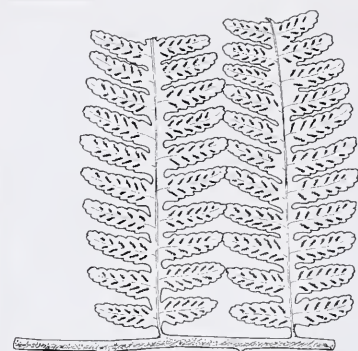
Arachniodes foliosa
Del. Sandie Burrows



Athyrium schimperi
Del. Sandie Burrows

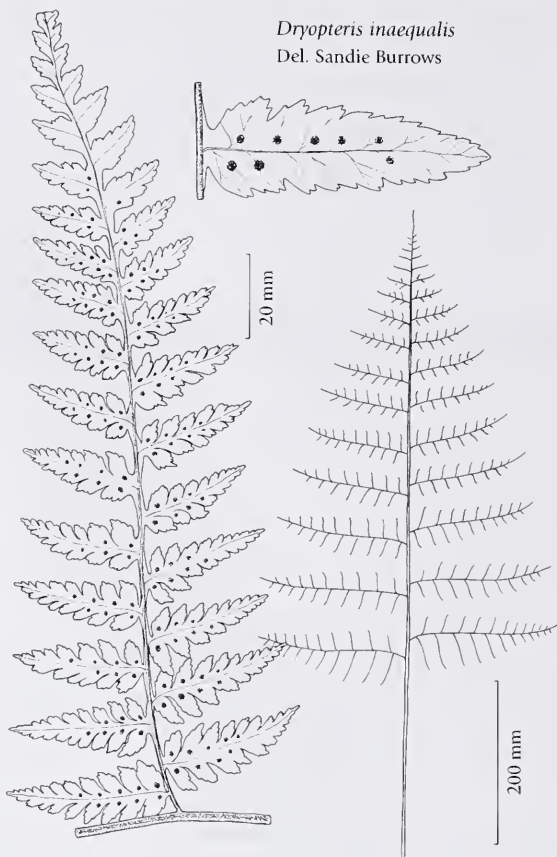


Didymochlaena truncatula
Del. Sandie Burrows



Diplazium zanzibaricum
Del. Sandie Burrows

20 mm



Dryopteris inaequalis
Del. Sandie Burrows

20 mm

200 mm

Megalastrum lanuginosum
Del. Sandie Burrows



20 mm

Polystichum zambesiacum
Del. Sandie Burrows



20 mm

in evergreen mist forest, sometimes along shaded streams or on forest margins; 1,800–2,250 m. Zimbabwe, Mozambique, Malawi, and Tanzania.

Source. Roux (1998).

Malawi. Nyika Plateau, without precise locality, 1946, *Brass 17255* (K, PRE, SRGH).

***Tectaria gemmifera* (Fée) Alston ❖**

Terrestrial fern, rhizome erect; fronds tufted, arching, triangular, 2-pinnatifid to 3-pinnate on the strongly basiscopically developed basal pinnae, thinly

hairy, bearing scattered gemmae on the rachis and costules of the upper surface; sori circular, 1–2 mm diameter, indusiate; in mid-altitude forests, forming extensive colonies; 1,170–2,200 m. South Africa northwards throughout tropical Africa; also on Madagascar and the Mascarenes.

Source. Korns (1979: 106).

Malawi. Nyika Plateau, Mwenembwe Forest, *Chapman s.n.* (herbarium not recorded).

Zambia. Nyika Plateau, Manyanjere Forest, 2000, *Phiri 4044* (UZL).

EQUISETACEAE

***Equisetum ramosissimum* Desf. ❖**

horsetail

Rhizome black, vertical (to 1.8 m deep) or horizontal, aerial stems erect, sparingly branched, conspicuously ribbed, apparently leafless, but with 10–20 scale-like leaves around the nodes; cones borne on the branch tips; a terrestrial grass-like plant of stream banks in woodland or grassland in

light shade or full sun, on gravels, sands or mud; 630–1,350 m. Africa and Europe. Often overlooked because of its grass-like appearance.

Source. Mill (1979).

Malawi. Nyika Plateau, Wovwe River, 2000, *Burrows & Burrows 6906* (MAL).

GLEICHENIACEAE

***Gleichenia elongata* Baker ❖**

Terrestrial fern, rhizome wiry, widely creeping; fronds widely spaced, erect, apparently paripinnate, branching dichotomously at the apex, ultimate segments broadly triangular/rounded, adnate to the costules; sori 1 per segment, exindusiate; along the banks of a small stream. Also on the high mountains of E. Africa, on forest margins and montane scrub. This is the only record of this species from the *Flora zambesiaca* region, not seen since 1952.

Source. Schelpe (1970: 48).

Malawi. Nyika Plateau, outside Nyika Juniper Reserve, 1952, *Chapman 44* (BM).

***Gleichenia polypodioides* (L.) Sm. ❖**

Terrestrial fern, rhizome widely-creeping, wiry; fronds spaced 20–200 mm apart, branching repeatedly into equal branches (dichotomous branching), ultimate lobes or segments triangular, 3 x 2 mm; sori usually embedded in the lamina, exindusiate; on sheltered cliff-faces and ravines, often near waterfalls, sometimes forming dense clumps; 1,220–1,870 m. South Africa to Angola, Malawi, Tanzania, and Burundi; also on Madagascar. Regarded as a weed in the southern Cape of South Africa, but rare in the north of its range.

Source. Schelpe (1970: 48).

Malawi. Nyika Plateau, without precise locality, 1946, *Brass 17277* (K, SRGH).

GRAMMITIDACEAE

***Grammitis rigescens* (Bory ex Willd.) Lellinger ❖**

Xiphopteris flabelliformis (Poir.) Schelpe; *Melpomene flabelliformis* (Poir.) A.R.Sm. & R.C.Moran

Small epiphytic or lithophytic fern, rhizome shortly creeping; fronds erect, simple, 30–170 x 7–17 mm, deeply incised almost to the midrib, hairless;

sori round, 1–4 per lobe, exindusiate; in moist mist forest at high altitudes, 2,200–2,400 m. South Africa (Drakensberg Mountains) northwards on many of the high mountains of tropical Africa; also on Madagascar and Réunion. Easily overlooked on account of its small size.

Malawi. Nyika Plateau, Mwenembwe Forest, *Dowsett-Lemaire 833* (MAL).

HYMENOPHYLLACEAE

***Crepidomanes melanotrichum* (Schltdl.) J.P.Roux ❖**

Trichomanes pyxidiferum L. var. *melanotrichum* (Schltdl.) Schelpe; *Trichomanes melanotrichum* Schltdl.

Moss-like epiphytic or lithophytic fern, rhizome widely creeping, set with black hairs; fronds erect, ovate to lanceolate, 2- to 3-pinnatifid, 8–75 x 8–30 mm, hairless; sori set in a protruding conical structure; in moist, deeply shaded areas in forest, on rock-faces or tree boles; 1,450–2,200 m. Wide-spread throughout the moister parts of Africa; also on Madagascar.

Source. Dowsett-Lemaire (1985: 374).

Malawi. Nyika Plateau, Lake Kaulime, 2000, *Burrows & Burrows 6863* (MAL, NBG, SRGH, UZL); without precise locality, *Dowsett-Lemaire 45*.

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), *White 2728* (BM, K).

Malawi. Nyika Plateau, Mwenembwe Forest, *Dowsett-Lemaire 226* (MAL).

***Sphaerocionium capillare* (Desv.) Copel.**

Hymenophyllum capillare Desv.

Rhizome thread-like, creeping widely; stipe not winged; fronds pendulous, 60–500 x 20–30 mm, 2- to 3-pinnatifid, margins entire, both surfaces densely set with stellate hairs, rachis not winged; sori terminal on ultimate lobes; on sheltered rock faces or tree fern boles, in wet evergreen mist forest, forming hanging mats; 1,700–2,140 m. South Africa northwards throughout the Afromontane regions of Africa; also on the Indian Ocean islands.

Malawi. Nyika Plateau, Mwenembwe Forest, *Chapman 391* (MAL).

***Sphaerocionium splendidum* (Bosch.) Copel. ❖**

Hymenophyllum splendidum Bosch.

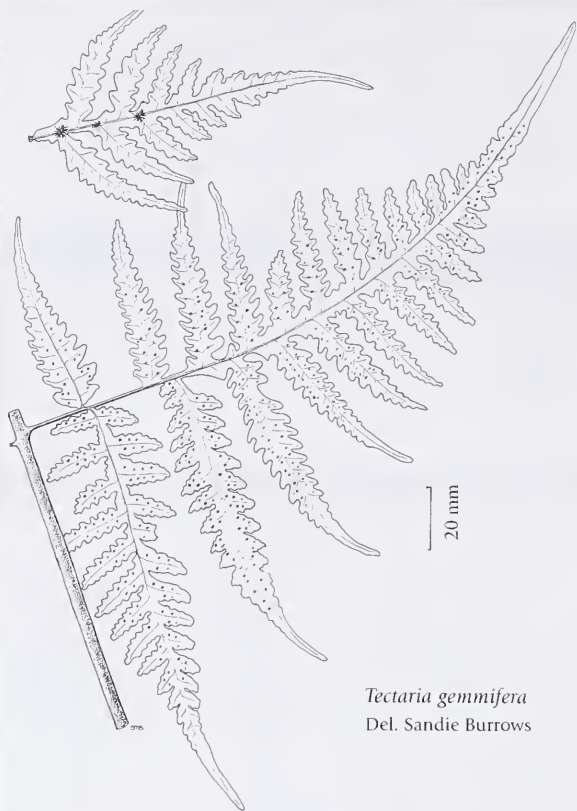
Rhizome thread-like, widely-creeping; fronds pendulous, 80–400 x 17–32 mm, narrowly lanceolate to linear, set with numerous stellate hairs, rachis without a wing; sori terminal on the distal lobes of each pinna; on moist rock faces in wet evergreen mist forest; 1,900–2,500 m. Zimbabwe, Mozambique, and northwards through much of tropical Africa. Often confusingly found growing with *S. capillare* (above).

Malawi. Nyika Plateau, Mwenembwe Forest, *Dowsett-Lemaire 227* (MAL).

***Hymenophyllum kuhni* C.Chr. ❖**

Hymenophyllum polyanthos Sw. var. *kuhnii* (C.Chr.) Schelpe

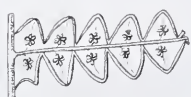
Rhizome thread-like, creeping widely; stipe narrowly winged for most of its length; fronds pendulous, 30–600 x 15–70 mm, 3-pinnatifid, margins entire, glabrous throughout; soral valves entire; a common epiphytic moss-like fern of moist evergreen mist forest, shrivelling up in the dry season; 1,700–2,250 m. Zimbabwe northwards throughout the Afromontane regions of Africa.



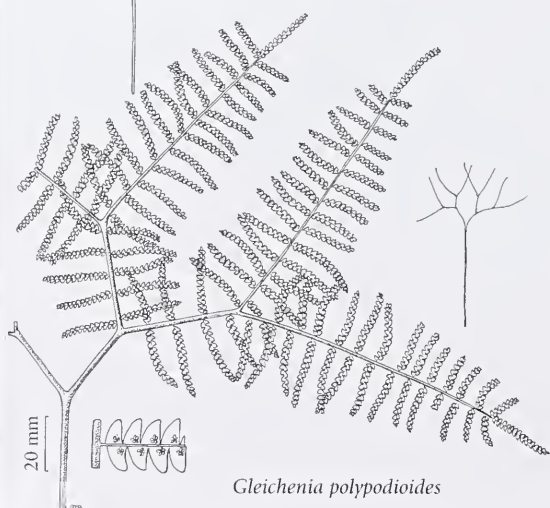
Tectaria gemmifera
Del. Sandie Burrows



Equisetum ramosissimum
Del. Sandie Burrows

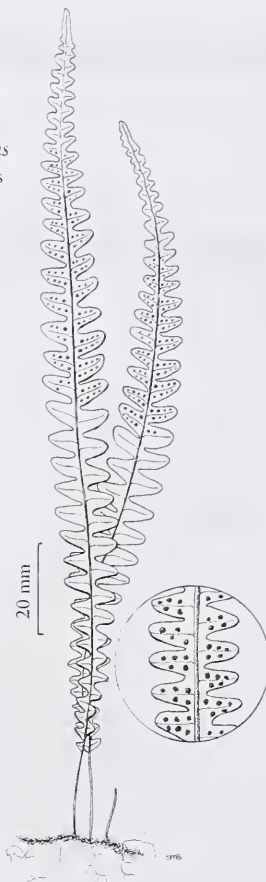


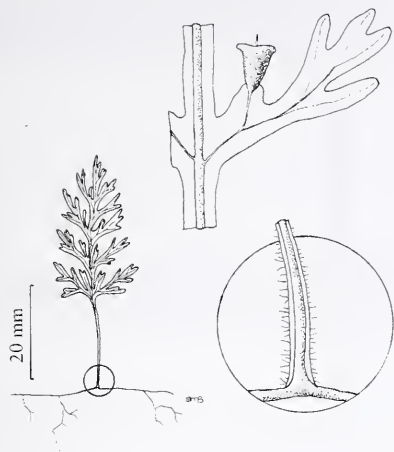
Gleichenia elongata
Del. Sandie Burrows



Gleichenia polypodioides

Grammitis rigescens
Del. Sandie Burrows



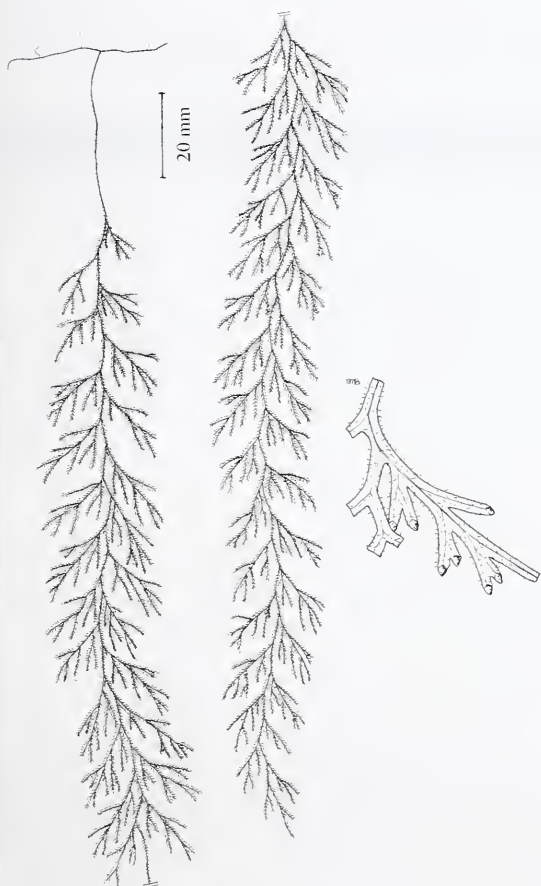


Crepidomanes melanotrichum
Del. Sandie Burrows



Hymenophyllum kuhnii
Del. Sandie Burrows

Sphaerocionium splendidum
Del. Sandie Burrows



Isoetes schweinfurthii
Del. Sandie Burrows



***Isoetes schweinfurthii* A. Braun ✧**

Small grass-like herb, basal parts subterranean, with several erect, straight, tapering leaves arising from a small woody disc; leaves 100–300 mm long, megaspore and microspores in basal sporangia, causing a basal swelling; megaspores trilete on one side, with numerous raised warts on the other; growing in seasonal pools on sheetrock, in woodland or grassland, leaves appearing in summer. Through most of tropical Africa; also on Madagascar.

Malawi. Nyika National Park, Thazima Gate, *Burrows & Burrows 6812* (K, MAL, PRE, SRGH).

***Isoetes* sp. A**

Similar to the above, but not matched to any known species, having smooth megaspores.

Malawi. Nyika National Park, Thazima Gate, *Burrows & Burrows 6831* (K, MAL, MU, NBG, PRE).

LOMARIOPSIDACEAE

***Elaphoglossum acrostichoides* (Hook. & Grev.) Schelpe**

Lithophytic or epiphytic fern, rhizome creeping; sterile fronds simple, linear-elliptic, 30–350 × 10–36 mm, more or less glabrous; sporangia black to dark brown, covering all of frond under-surface (fertile fronds only); fertile frond with a longer stipe and smaller lamina; in forest or rock outcrops; 0–2,800 m. Southern and tropical Africa; also Madagascar. First records for the Nyika.

Malawi. Nyika National Park, Wovwe River, 2000, *Burrows & Burrows 6905* (MAL, NBG, UZL); Chelinda Bridge, 2000, *Burrows & Burrows 6842* (MAL, NBG, UZL).

***Elaphoglossum aubertii* (Desv.) Moore**

Terrestrial or lithophytic fern, rhizome shortly creeping; sterile fronds erect, linear to narrowly elliptic, 200–400 × 15–25 mm, stipe and both surfaces sparsely set with small brown scales, more so on the margins; fertile fronds like a spear-head, smaller than the sterile, sporangia covering the whole of the under-surface; on mossy boulders near streams in deep shade of evergreen mist forest; 1,370–2,250 m. South Africa to Cameroon and Kenya; also on Madagascar, the Comoros, and Mascarenes.

Malawi. Nyika Plateau, Mwenembwe Forest, *Dowsett-Lemaire 784* (MAL).

***Elaphoglossum salicifolium* (Willd. ex Kaulf.) Alston ✧**

Elaphoglossum petiolatum (Sw.) Urb. subsp. *salicifolium* (Willd.) ex

Kaulf.) Schelpe

Lithophytic (rarely epiphytic) fern, rhizome shortly creeping; sterile fronds erect to arching, simple, narrowly elliptic, set with ciliate scales on both surfaces and the stipe; fertile fronds narrower and longer than the sterile, sporangia covering the whole of the lower surface; in moist riverine forest, often near waterfalls, in light shade; 1,040–2,000 m. Zimbabwe northwards throughout tropical Africa; also on Madagascar and the Indian Ocean islands.

Source. Schelpe (1970: 215).

Malawi. Nyika Plateau, Nkhonjera Mountain, 1963, *Lemon 1012* (SRGH). **Zambia.** Nyika Plateau, Kaperekezi Road, 2000, *Phiri 3850* (NBG, UZL).

***Elaphoglossum spatulatum* (Bory) T. Moore**

Small lithophytic fern, rhizome short, horizontal; fronds clustered, 30–80 mm long, both surfaces and the stipe set with small brown entire scales; fertile lamina much smaller than the sterile, folded in half when young, lower surface covered with sporangia; on shaded rocks in or next to streams; 970–2,135 m. Both subspecies (subsp. *spatulatum* and subsp. *uluguruense* (Reimers) Schelpe) occur in Malawi; it is not known to which this collection belongs.

Malawi. Nyika Plateau, without locality (northern end?) or collecting details (Patel 1999).

LYCOPODIACEAE

***Huperzia dacrydioides* (Baker) Pic. Serm.**

Lycopodium dacrydioides Baker

Epiphyte (rarely lithophytic), robust, with a few pendulous stems to 1 m long or more; leaves linear lanceolate, to 20 × 2 mm, dark glossy green; fertile portion similar in appearance to the sterile; in moist montane forest (mist forest); 1,500–1,800 m. South Africa to Ethiopia; also on the Comoros. **Source.** Schelpe (1970: 18).

Malawi. E. Nyika Escarpment, 1963, *Chapman 2007* (BOL, SRGH).

***Huperzia gnidioides* (L.f.) Rothm. ✧**

Lycopodium gnidioides L.f.

Stems erect with arching tips, or pendulous; stems to 500 mm long, dividing 4 to 5 times; leaves mid-green, glossy, to 10 × 2 mm; fertile portion apical, clearly differentiated, the sporophylls much smaller than the sterile leaves; epiphytic in montane forest or lithophytic on rocky outcrops in montane grassland; 1200–2000 m. South Africa to Malawi; also the Indian Ocean islands and Madagascar.

Source. Burrows (1990: 14).

Malawi. Nyika Plateau, Mwenembwe Forest, *Dowsett-Lemaire 779* (MAL).

***Huperzia ophioglossoides* (Lam.) Rothm.**

Lycopodium ophioglossoides Lam.

Epiphyte or lithophyte, stems pendulous or arching, branching repeatedly; leaves 10–20 mm long, narrowly lanceolate, often standing out from the stems; fertile portion different from the sterile stems, sporophylls smaller (1.5 mm long), ovate; in moist montane forest (mist forest); above 1,600 m. Sporadic throughout the highlands of tropical Africa; also on Madagascar and Mascarenes.

Source. Dowsett-Lemaire (1985: 374).

No country given. Nyika Plateau, without precise locality, *Dowsett-Lemaire 537*.

***Huperzia verticillata* (L.f.) Rothm.**

Lycopodium verticillatum L.f.

Arching or pendulous lithophyte or epiphyte; stems branching repeatedly dichotomously, clad in fine needle-like leaves to 8 mm long; sporophylls similar to the sterile leaves; in moist forest in shade, 1,500–1,980 m. South Africa to Malawi and Cameroon; also in Madagascar, the Comoros, the Mascarenes, and S. America.

Malawi. Nyika Plateau, Nyamkhowa Forest, *Dowsett-Lemaire 536* (MAL).

***Lycopodiella cernua* (L.) Pic. Serm. ✧**

Lycopodiella cernuum L.

Main stems horizontal, rooting, with main branches erect, stem-like, with numerous arching branches, each terminating in a 'cone' or fertile portion; leaves 3 × 3 mm; sporophylls ca 1.5 mm long; in continually moist stream banks in full sun, often over shallow sheetrock near waterfalls; 800–2,000 m. Worldwide.

Source. Schelpe (1970: 20).

Malawi. Nchena-chena, 1946, *Brass 17373* (K, SRGH).

***Lycopodium carolinianum* L. var. *affine* (Bory) Schelpe**

Moss-like plant, stems prostrate, rooting along their length; leaves 4–10 mm long, lanceolate; fertile stems rigidly erect, the sporophylls grouped into a terminal strobilus; in swampy ground swamp forest, 1,350–2,150 m. Tropical Africa and the Mascarene islands.

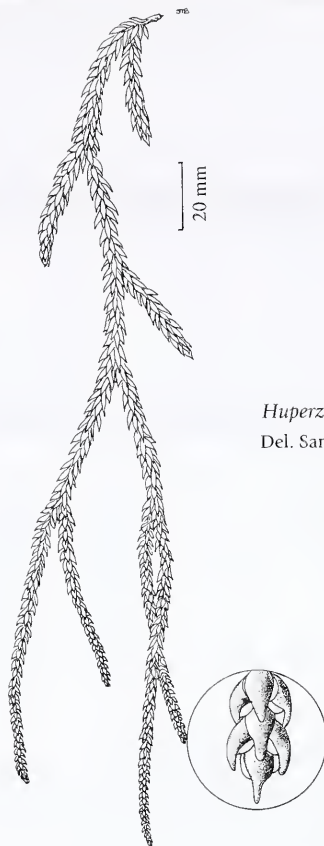
Source. Schelpe (1970: 20).

Malawi. Nyika Plateau, Lake Kaulime, 1958, *Robson & Fanshawe 634* (BM,

Elaphoglossum salicifolium
Del. Sandie Burrows



Huperzia gnidioides
Del. Sandie Burrows



Lycopodiella cernua
Del. Sandie Burrows



Lycopodium clavatum
Del. Sandie Burrows



K, LISC, SRGH); Zovochipolo, 1989, *Burrows & Burrows* 4767 (Buffelskloof Herbarium).

***Lycopodium clavatum* L. ❖**

Lycopodium inflexum (P.Beauv.) Sw.

Terrestrial plant with numerous erect branched stems; leaves 3–5 mm long, linear-lanceolate, standing out from the stem at right-angles; fertile branches

erect, the strobilus borne on a naked peduncle at the end of branches; on continually moist margins of montane forest; moist earth (road) banks in montane grassland, river-banks, often common; 1,600–2,300 m. Worldwide. **Source.** Schelpe (1970: 21).

Malawi. Nyika Plateau, Chelinda, Pawek 13733 (MAL); Lake Kaulime, 2000, Phiri 3720 (UZL).

Zambia. Nyika Plateau, without precise locality, Fanshawe 7325 (K, NDO).

MARATTIACEAE

***Marattia fraxinea* Sm. ❖**

Marattia fraxinea Sm. ex J.F.Gmel. var. *salicifolia* (Schrad.) C.Chr.

Tree fern-like terrestrial fern, rhizome massive, with large fleshy scales; stipe with a distinct swollen base; fronds large, to 2 m long, 2-pinnate, glabrous, margins serrate; sporangia borne in elliptic syngangia, splitting

longitudinally, one syngangium per vein; a fern of deeply shaded ravines and streams in forest 750–2,000 m. Southern and tropical Africa; also on Madagascar and the Mascarenes.

Source. Dowsett-Lemaire (1985: 374).

Malawi. Nyika Plateau, without precise locality, Dowsett-Lemaire 206.

OLEANDRACEAE

***Arthropteris monocarpa* (Cordem.) C.Chr.**

Lithophytic or epiphytic fern with widely creeping rhizomes; stipes jointed near the base; fronds erect or arching, oblong-lanceolate, deeply 2-pinnatifid, glabrous except for sparse white hairs on the veins and costules below; sori roundish, indusiate, usually 1 per lobe; in moist forest; 1,800–2,350 m. Tropical Africa, Madagascar, and the Indian Ocean islands.

Source. Schelpe (1970: 163).

Malawi. Nyika Plateau, without precise locality, 1946, Brass 17336 (SRGH).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, White 2712 (BM, K).

Lemaire 224.

***Nephrolepis undulata* (Afzel. ex Sw.) J.Sm. ❖**

Widespread ground fern of moist miombo woodlands and grasslands in rocky areas; fronds deciduous in winter; 730–2,100 m.

Source. Kornas (1979: 118).

Malawi. Nyika Plateau, Mwanda Mountain, 2000, Willis 184 (PRE).

Zambia. Nyika Plateau, Kangampande Mountain, 1952, White 2804 (BM, K).

***Oleandra distenta* Kunze var. *distenta* ❖**

Epiphytic or lithophytic fern, rhizome widely creeping or scandent up trees; stipes articulated; fronds simple, oblong-lanceolate, glabrous, margins serrate, venation finely parallel; sori in an irregular row on each side of the midrib; in forest or on shaded cliffs, forming tangled masses; fronds deciduous in winter; 1,100–2,000 m. Southern and tropical Africa, Madagascar, and the Indian Ocean islands.

Source. Schelpe (1970: 165).

Malawi. Nyika Plateau, Rukuru River Falls, 1959, Richards 10532 (K); Chelinda Bridge, 2000, Burrows & Burrows 6840 (MAL, NBG, UZL).

OPHIOGLOSSACEAE

***Ophioglossum convexum* J.E.Burrows ❖**

Herb with annual leaves; leaves usually 1, pressed flat on the ground, petiole 6–20 mm long, lamina ovate to broadly ovate; fertile spike 30–100 mm long, with 6–15 pairs of sporangia; in moist montane grassland; 1,400–2,000 m. South Africa to Zambia and Malawi. First record for Malawi.

Source. Burrows (1990: 42).

Malawi. Nyika Plateau, Wovwe River, 2000, Burrows & Burrows 6909 (MAL, PRE, UZL).

***Ophioglossum lusoaficanum* Welw. ex Prantl**

Herb with annual grass-like leaves; leaves usually one per plant, erect, simple, petiole 17–100 mm long, lamina linear-oblongate to narrowly elliptic, 15–80 × 2–11 mm; fertile spike 30–160 mm long, with 8–23 pairs of sporangia; in moist montane grassland; to 2,200 m. South Africa to Angola and Ethiopia. First record for Malawi (N.).

Source. Burrows (2001: 13).

Malawi. Nyika Plateau, Wovwe River, 2000, Burrows & Burrows 6910 (MAL, UZL); Juniper Forest Reserve, 2000, Burrows & Fish 6931 (Buffelskloof Herbarium).

***Ophioglossum polyphyllum* A.Braun**

Herb with annual leaves; leaves simple, erect, 1–2 per plant, petiole 25–130 mm, the old blackened conspicuously persistent on the underground rhizome; lamina narrowly elliptic to lanceolate or ovate; fertile spike 25–120 mm long, with 12–46 pairs of sporangia; in woodland and grassland;

sea-level to 3,000 m. Worldwide.

Source. Burrows (2001: 10).

Malawi. Nyika Plateau, Chisanga Falls, 2000, Burrows & Maroyi 6757 (Buffelskloof Herbarium).

***Ophioglossum rubellum* Welw. ex A.Braun**

Very small herb with annual leaves; leaves simple, 1–3 per plant, held ca 10° from the horizontal, petiole 1–20 mm long; lamina ovate to roundish, often with a reddish tinge; fertile spike 25–120 mm long, with 12–46 pairs of sporangia; in moist woodland, often in shallow soils over sheetrock. No quoted specimen; although this species is likely to occur on the Nyika, it still needs to be confirmed.

Source. Burrows (2001: 8).

Malawi. Nyika Plateau, without locality or collecting details (Mill 1979).

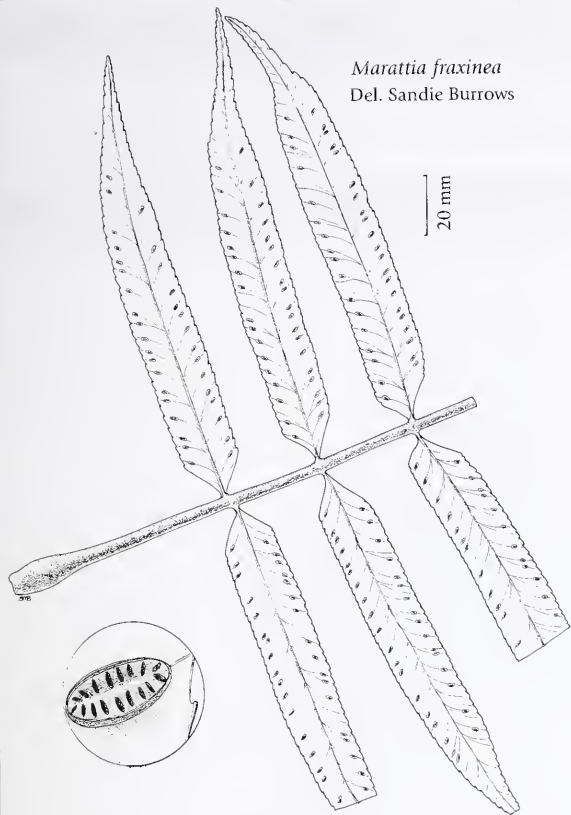
Ophioglossum vulgatum* L. subsp. *africanum* Pocock ex J.E.Burrows var. *africanum

Terrestrial herb with annual leaves; leaves erect, simple, more or less erect, petiole 30–220 mm long; lamina ovate to lanceolate, 25–90 mm long; fertile spike 65–180 mm long, with 15–32 mm pairs of sporangia; in montane grassland or on margins of forest, aerial fronds die down in winter; 100–3,000 m. Southern and tropical Africa. May be locally common.

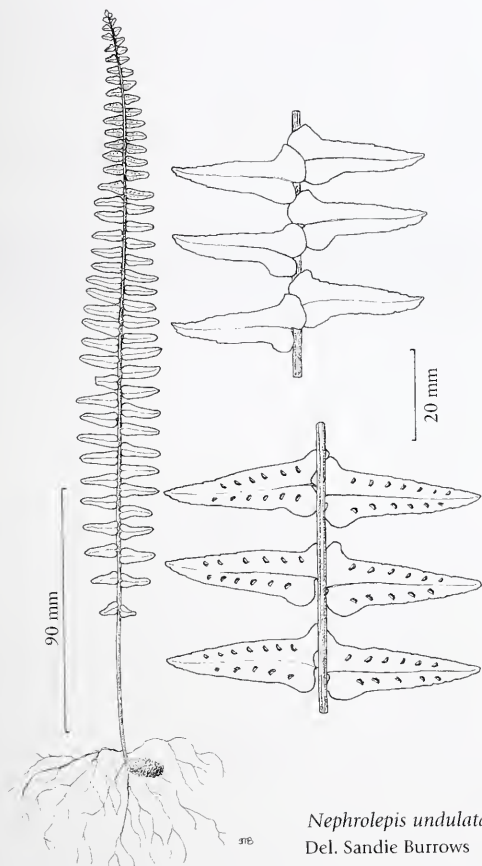
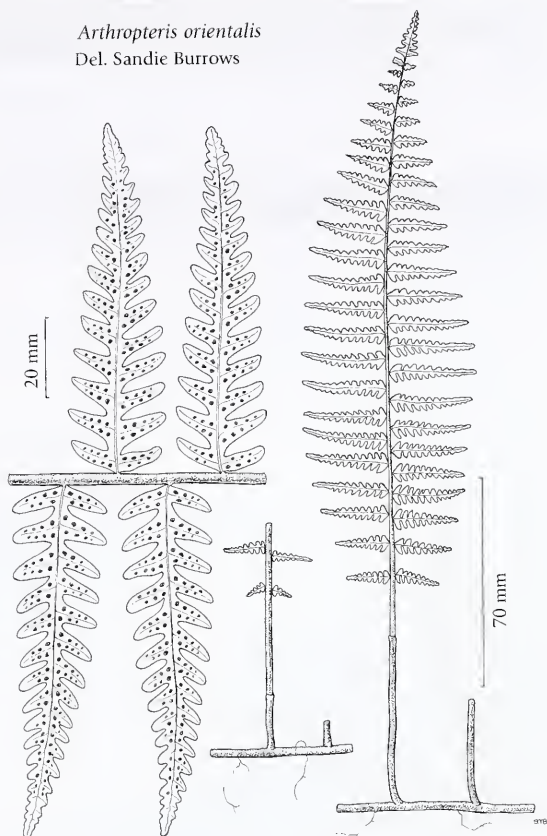
Source. Burrows (2001: 15).

Malawi. Nyika Plateau, Chelinda Bridge, la Croix 4392 (MAL); Juniper Forest Reserve, 2000, Burrows & Burrows 6923 (MAL, PRE, UZL).

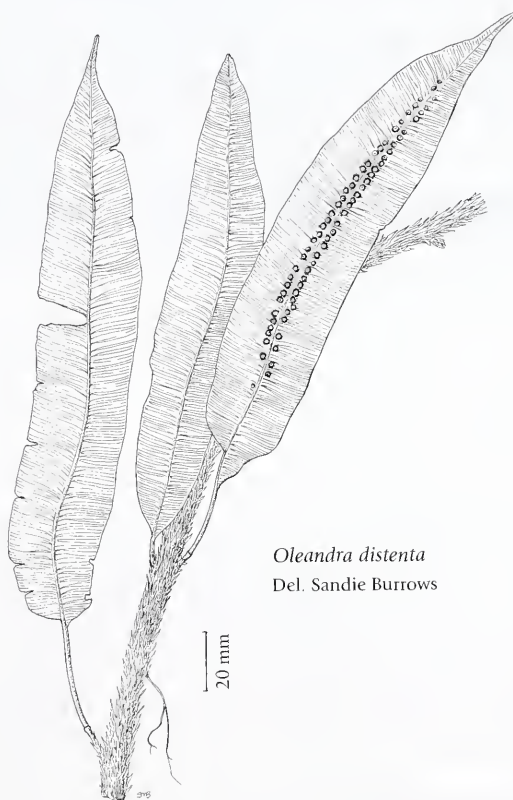
Marattia fraxinea
Del. Sandie Burrows



Arthropteris orientalis
Del. Sandie Burrows



Nephrolepis undulata
Del. Sandie Burrows



Oleandra distenta
Del. Sandie Burrows

OSMUNDACEAE

Osmunda regalis L. ❖

Terrestrial fern, rhizome erect, stout, blackish; fronds erect, 0.6–2 m long, 2-pinnate; fertile pinnules linear, with clusters of sporangia along their length; along the margins of strong-flowing streams and rivers, in full sun or par-

tial shade; 1,350–2,600 m. Worldwide.

Source. Schelpe (1970: 46).

Malawi. Nyika Plateau, Lukulu Falls, 1,980 m, 1957, *Stewart 1* (K, MPR).

POLYPODIACEAE

Drynaria volkensii Hieron. ❖●

Rhizome large, creeping, densely scaly; fronds dimorphic, the sterile fronds stiffly erect, papery, deeply-lobed, trapping leaves and humus; fertile fronds green arching, pinnate, pinnae narrowly oblong-attenuate; sori small, round, set near and along the midrib of the pinnae; a large epiphyte forming masses in evergreen forest and on forest margins; 1,800–2,200 m. Widespread in tropical Africa, but confined to N. Malawi and N. Mozambique in the *Flora zambesiaca* area.

Source. Schelpe (1970: 149).

Malawi. Nyika Plateau, Rukuru River Falls, 1959, *Richards 10523* (K); road to Chelinda Bridge, 2000, *Burrows & Burrows 6889* (NBG).

Zambia. Nyika Plateau, 2.4 km S.W. of Rest House, 1958, *Robson 474* (K, LISC, SRGH); Manyanjere Forest, 2000, *Phiri 4035* (UZL).

Loxogramme abyssinica (Baker) M.G.Price ❖

Loxogramme lanceolata auctt. non (Sw.) C.Presl

Rhizomes widely creeping; fronds spaced to 50 mm apart, simple, 55–350 mm long, narrowly elliptic, glabrous, sori arranged chevron-like, linear-oblong, to 23 mm long, exindusiate; lithophytic ferns on deeply shaded rocks in forest, sometimes epiphytic; 820–2,350 m. Southern and tropical Africa, Madagascar, and the Indian Ocean islands.

Source. Schelpe (1970: 151); Verdcourt (2001: 35).

Malawi. Nyika Plateau, without precise locality, 1946, *Brass 17287* (K); Juniper Forest Reserve, 2000, *Burrows & Burrows 6934* (MAL, UZL).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White 2708* (BM); Chowo Forest, 2000, *Phiri 4026b* (UZL).

Pleopeltis excavata (Bory ex Willd.) Sledge

Lepisorus excavatus (Bory ex Willd.) Ching

Rhizome creeping with pale scales; fronds erect, thinly-textured, simple, narrowly lanceolate, to 400 mm long, glabrous; sori round, 2.5–5 mm diameter, in a line on either side of the midrib in the upper two thirds of the frond; a widespread epiphytic fern in montane forest, fronds deciduous in

winter; 1,500–2,300 m. Widespread in tropical Africa; also on Madagascar and the Indian Ocean islands.

Source. Schelpe (1970: 152); Verdcourt (2001: 17).

Malawi. Nyika Plateau, without precise locality, *Robinson 4497* (K); Fingira Rock, 2000, *Willis & Luhanga 213* (PRE).

Zambia. Nyika Plateau, without precise locality, 1959, *Robinson 3019* (K, SRGH); near Kaperekezi Road, 2000, *Phiri 3851* (UZL).

Pleopeltis macrocarpa (Bory ex Willd.) Kaulf. ❖

Rhizome widely creeping; fronds widely-spaced, simple, to 200 mm long, lanceolate, glabrous, but the lower surface set with numerous small round peltate scales; sori round, 4–8 mm diameter, in two rows on either side of the midrib, exindusiate; an epiphytic fern of moist woodlands and forests, sometimes lithophytic; not deciduous; 1,000–2,300 m. South Africa and throughout tropical Africa; also in Madagascar, India, tropical America, and Hawaii.

Source. Schelpe (1970: 153); Verdcourt (2001: 26).

Malawi. Nyika Plateau, without precise locality, 1946, *Brass 17227* (K, SRGH).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White 2724* (BM).

Pyrrosia stolzii (Hieron.) Schelpe ❖

Rhizome shortly creeping; fronds spaced *ca* 10 mm apart, simple, sessile to shortly stipitate, lanceolate to elliptic, densely set with minute stellate hairs of two kinds; sori small, round, borne all over lower surface, partially evident through the scales; an epiphyte in moist montane forests; 1,200–1,500 m. E. Zambia, N. Malawi, and Tanzania.

Source. Schelpe (1970: 149).

Malawi. Nyika Plateau, Rukuru River Falls, 1959, *Richards 10523* (K); Zovochipolo Forest, 2000, *Burrows & Burrows 6895* (MAL, NBG, UZL).

Zambia. Nyika Plateau, upper slopes of Kangampande Mountain (Chowo Forest), 1952, *White 2709* (BM, K); Chowo Forest, 2000, *Phiri 4022* (UZL).

PTERIDACEAE

Adiantum lunulatum Burm.f. ❖

Adiantum philippense L.

Terrestrial fern short with tufted fronds; fronds arching, pinnate, pinnae alternate, fan-shaped, borne on straight wiry black stalks; sori marginal, discrete; in miombo woodlands, usually in ravines and around boulders; 600–1,500 m. Widespread throughout the tropics. This locality is probably outside the Nyika National Park boundary.

Source. Verdcourt (2002: 57).

Malawi. Livingstonia Escarpment, *la Croix 4395* (MAL).

Adiantum poiretii Wikstr. var. *poiretii* ❖

Terrestrial fern, rhizome creeping; fronds 200–600 mm tall, 3- to 4-pinnate, pinnules deciduous, triangular to fan-shaped, 5–15 mm diameter, margins crenate to incised; sori marginal, round to kidney-shaped; on forest floors, not usually near water; 1,220–1,980 m. Widespread in Africa, the Mascarene Islands, India, Tristan da Cunha, and tropical America.

Source. Kornas (1979: 66).

Malawi. Nyika Plateau, Kaulime River, N. of Lake Kaulime, 2000, *Willis & Luhanga 108* (PRE); Juniper Forest Reserve, 2000, *Burrows & Burrows 6922* (MAL, NBG, UZL).

**Adiantum raddianum* C.Presl

Terrestrial fern, rhizome shortly creeping; fronds tufted, 3- to 4-pinnate,

pinnules obtriangular, 5–10 mm long, 4–12 mm wide, crenate-serrate; sori marginal, kidney-shaped; on moist earth banks in forested ravine; 2,100 m. Introduced and naturalised fern from S. America. First record for Nyika Plateau and Malawi (N.).

Malawi. Nyika Plateau, forest patch N.N.E. of Mwanda Mountain, *Willis & Luhanga 177* (PRE).

Adiantum reniforme L. var. *asarifolium* (Willd.) Cordem. ❖●

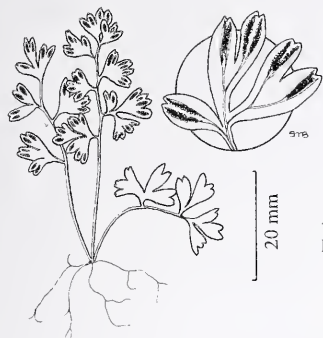
Terrestrial fern, rhizome shortly creeping; fronds tufted, with an almost circular lamina borne on a long blackish stipe, basal lobes often overlapping; sori numerous, almost continuous; on rocky river-bank in shade of riverine forest. A very rare fern on continental Africa, known only from probably five localities (D.R.C., Kenya, Tanzania, and Malawi); also on Madagascar, Réunion, and Mauritius. The variety *reniforme* is recorded from Madeira and the Canary Islands, while var. *sinense* Y.X.Lin is described from China.

Source. Brummitt (1973); Verdcourt (2002: 50).

Malawi. Nyika Plateau, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Synge 154* (K, MAL, SRGH); 2000, *Winter & Patel 4148* (J, K, MAL, NBG, NH, PRE, SRGH, UNIN, UZL).

Anogramme leptophylla (L.) Link ❖

Very small annual fern to 20 mm tall; fronds 1–6, 2- to 3-pinnatifid, very



Anogramme leptophylla
Del. Sandie Burrows

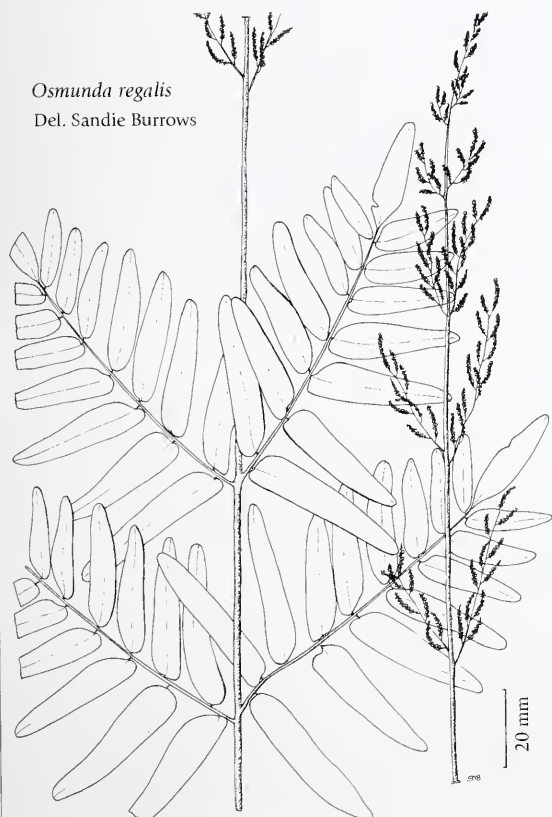


Ophioglossum convexum
Del. Sandie Burrows

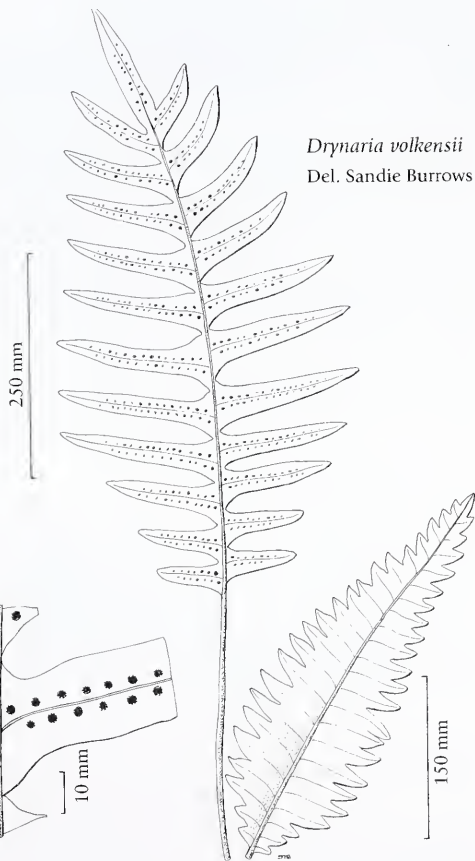


Aspidotis schimperi
Del. Sandie Burrows

Osmunda regalis
Del. Sandie Burrows



Drynaria volkensii
Del. Sandie Burrows



thinly textured, glabrous; sori linear along the veins; in lee of boulders in grassland; 1,600–2,500 m. Throughout the tropics worldwide. Very easily mistaken for a fern sporeling and therefore probably often overlooked. This is the first confirmed record for Malawi.

Malawi. Nyika National Park, Nganda Hill, 2000, *Burrows & Burrows 6850* (MAL, NBG, SRGH, UZL).

***Aspidotis schimperi* (Kunze) Pic.Serm. ✧**

Terrestrial fern, rhizome creeping; fronds tufted, stipe dark brown, lamina triangular to pentagonal, finely-dissected (deeply 4-pinnatifid), basal pinnae strongly developed basally; sori small, more or less round, borne in the sinuses of the marginal teeth; in miombo or other woodland among rocks; 900–1,800 m. Zimbabwe to Ethiopia and Nigeria.

Malawi. Nyika National Park, Thazima Gate, 2000, *Burrows & Burrows 6820* (MAL, NBG, PRE, UZL); Juniper Forest Reserve, 2000, *Burrows & Burrows 6925* (MAL, PRE, UZL).

Zambia. Nyika Plateau, Kaperekezi Road, 2000, *Phiri 3852* (UZL).

***Cheilanthes farinosa* (Forssk.) Kaulf. ✧**

Terrestrial fern, rhizome shortly creeping, fronds erect, with black stipules, lanceolate, 2-pinnatifid, under-surface characteristically covered with a white or yellowish powder; sori marginal, discrete; in moist sites, often in the spray of waterfalls; 1,400–3,000 m or more. Zimbabwe to Ethiopia and W. Africa; also in Arabia.

Malawi. Nyika Plateau, Chisanga Falls, 2000, *Burrows & Burrows 6765* (MAL, NBG, UZL).

Cheilanthes inaequalis* (Kunze) Mett. var. *inaequalis

Terrestrial fern, rhizome shortly creeping; fronds tufted, erect, hairy throughout, lanceolate to triangular-oblong, pinnate, the pinnae pinnatifid to entire, lower surface with densely matted hairs; sori marginal, discrete; among rocks in woodland and on rock outcrops in grassland; 1,440–2,220 m. South Africa northwards throughout tropical Africa.

Source. Kornas (1979: 50).

Malawi. Nyika Plateau, Chelinda River Bridge, Pawek 2163 (K).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White 2801* (BM, K).

***Cheilanthes multifida* (Sw.) Sw. var. *lacerata* N.C.Anthony & Schelpe**

Terrestrial fern, rhizome shortly creeping; fronds tufted, erect, narrowly triangular, finely divided, 2- to 3-pinnate; sori marginal, separate (discrete), indusia margins lacerate or jagged; around boulder bases, in rock crevices in woodland or grassland, and on forest margins; 2,162 m. South Africa to Ethiopia and Sudan; also on Madagascar and St Helena.

Source. Kornas (1979: 51).

Malawi. Nyika Plateau, Chelinda River Bridge, Pawek 2162 (K); Chelinda Bridge area, 2000, *Willis 46* (PRE).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White 2802* (BM, K).

***Cheilanthes quadripinnata* (Forssk.) Kuhn**

Pellaea quadripinnata (Forssk.) Prantl

Terrestrial fern, rhizome shortly creeping; fronds tufted, triangular to pentagonal, 3- to 5-pinnate, margins of sterile pinnules finely toothed; sori marginal, continuous; in forest margins and montane grasslands, often among rocks; 1,700–2,050 m. Widespread in the Afrotropical uplands of Africa; also in Madagascar, the Comoros, and Yemen.

Source. Schelpe (1970: 133).

Malawi. Nyika Plateau, Nganda Hill, 1962, *Tyrer 836* (SRGH).

***Coniogramme africana* Hieron. ✧**

Terrestrial fern, rhizome creeping; fronds spaced 10–40 mm apart, pinnate, the basal pinnae basiscopically again pinnate, pinnae margins serrate; sori linear along the veins, exindusiate; in forest near streams, occurring with *Entandrophragma excelsum* and *Chrysophyllum gorungosanum*. From Malawi to Liberia and Ethiopia. Very rare in the *Flora zambesiaca* area; the only other collections are from the Misuku Hills and Mtungwa Forest on the Viphya, Mzimba District.

Source. Dowsett-Lemaire (1985: 318).

Malawi. Nyika Plateau, Zovochipolo, *Dowsett-Lemaire 286* (?K).

***Pellaea pectiniformis* Baker ✧**

Terrestrial fern, rhizome shortly creeping; fronds tufted, pinnate, the pinnae narrowly linear, arranged like a comb, hairless; sori and indusium marginal, continuous; around rocks (commonly on quartzites) in woodland or grassland; 900–1,530 m. South Africa to Angola, Gabon, D.R.C., and Tanzania; also in the Comoros.

Source. Schelpe (1970: 129).

Malawi. Nyika Plateau, Mwanda Mountain, 1963, *Lemon 1034* (SRGH); without locality, 2000, *Thera 3096* (MAL).

Zambia. Nyika Plateau, near Kaperekezi Road, 2000, *Phiri 3855* (UZL).

***Pityrogramma aurantiaca* (Hieron.) C.Ch. ✧**

Rhizome creeping; fronds closely spaced, 2-pinnate to 4-pinnatifid, hairless above, lower surface with a yellow or orange powder; sori linear, along the veins, exindusiate; a very rare terrestrial fern, forming tussocks in high-altitude marshes; 2,340 m. Malawi (Nyika and Mt. Mulanje), Tanzania, Kenya, Uganda, D.R.C., Burundi, and Rwanda. Known only from this single collection on the Nyika.

Source. Schelpe (1970: 107).

Malawi. Nyika Plateau, without precise locality, 1946, *Brass 17331* (BM, K, SRGH).

Pteris catoptera* Kunze var. *catoptera

Terrestrial fern, rhizome erect or shortly creeping; fronds erect, oblong-ovate, deeply 2-pinnatifid, the basal pair of pinnae bearing 1–2 basiscopic sub-pinnae, small spines on upper surface borne along the costae and costules; sori marginal, linear, continuous; a fairly widespread terrestrial fern of shaded forest floors, not normally near water; 1,970–2,400 m. Throughout eastern Africa from South Africa to Ethiopia and Yemen, and westwards to Guinea.

Source. Dowsett-Lemaire (1985: 372).

Malawi. Nyika Plateau, without precise locality, *Dowsett-Lemaire 37* (?K).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White 2713* (BM, K).

***Pteris cretica* L. ✧**

Terrestrial fern, rhizome shortly creeping; fronds tufted, dimorphic, pinnate, the basal pinnae pair bearing a basiscopic pinna, sterile pinnae narrowly lanceolate, serrate, fertile fronds larger, pinnae narrowly linear; sori and indusia marginal, continuous; forest margins, stream banks in forest, shaded earth banks in moist mist forest or scrub; 1,200–2,150 m. Widespread in Africa; also in the Mediterranean region, Asia, and Madagascar. **Malawi.** Nyika Plateau, without precise locality, *E. Chapman 208* (BM, MAL); Nganda Hill, 2000, *Burrows & Burrows 6856* (MAL).

Zambia. Nyika Plateau, without precise locality, 1959, *Robinson 3020* (K, SRGH).

***Pteris dentata* Forssk. ✧**

Terrestrial fern, rhizome erect or creeping; fronds tufted, broadly ovate, pinnatifid to almost 3-pinnatifid, the basal pinnae pair strongly basiscopically developed, margins of sterile fronds serrate-dentate; sori and indusia marginal, linear, continuous; occasional in forest; 1,160–2,400 m. Throughout sub-Saharan Africa; also in Arabia, Greece, Madagascar, the Mascarene islands, St Helena, and Ascension. Recorded by Dowsett-Lemaire (1985) from Zovochipolo and the High Plateau (2250–2450 m).

Source. Dowsett-Lemaire (1985: 372).

Malawi. Nyika Plateau, without precise locality, *Dowsett-Lemaire 209* (?K).

***Pteris friesii* Hieron.**

Pteris catoptera Kunze var. *friesii* (Hiern.) Verdc.

Terrestrial fern, rhizome erect or shortly creeping; fronds erect, oblong-ovate, deeply 2-pinnatifid, the basal pair of pinnae bearing 1–2 basiscopic sub-pinnae, small spines on upper surface borne on the costae only; sori marginal, linear, continuous; in undergrowth of forest, scrub, and swamp forest, 1,200–2,200 m. Widespread in tropical Africa. Mainly on western Nyika.

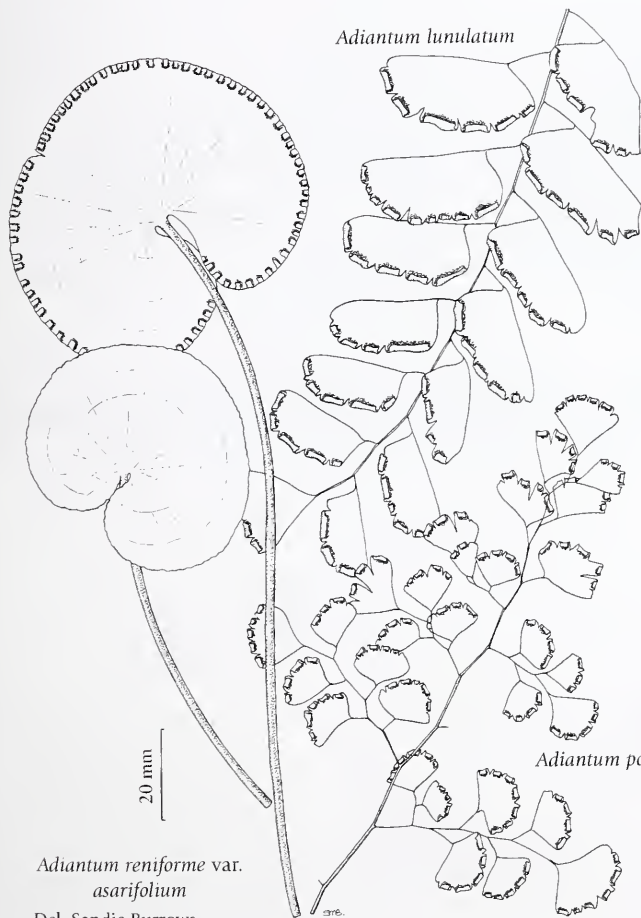


Loxogramme abyssinica
Del. Sandie Burrows

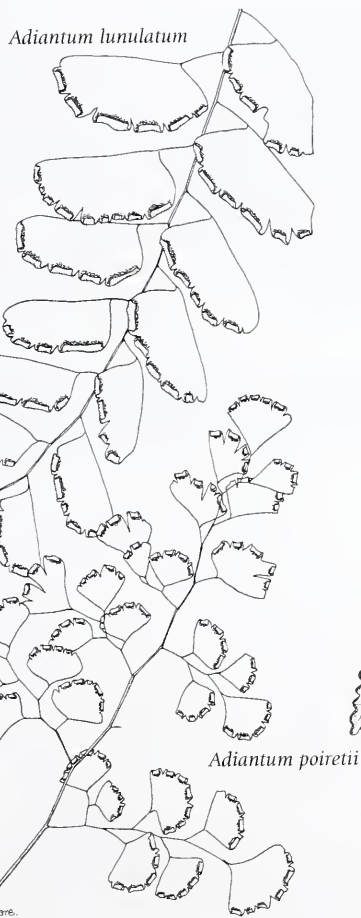


Pleopeltis macrocarpa
Del. Sandie Burrows

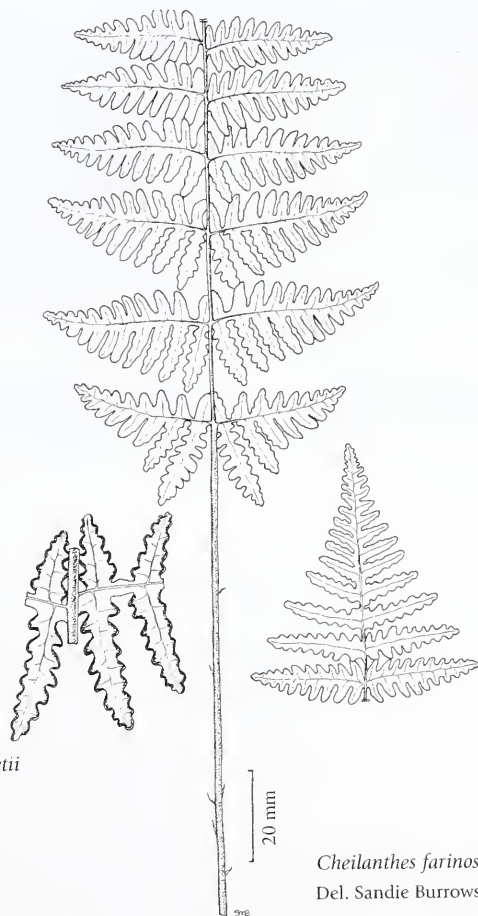
Pyrrosia stolzii
Del. Sandie Burrows



Adiantum reniforme var.
asarifolium
Del. Sandie Burrows

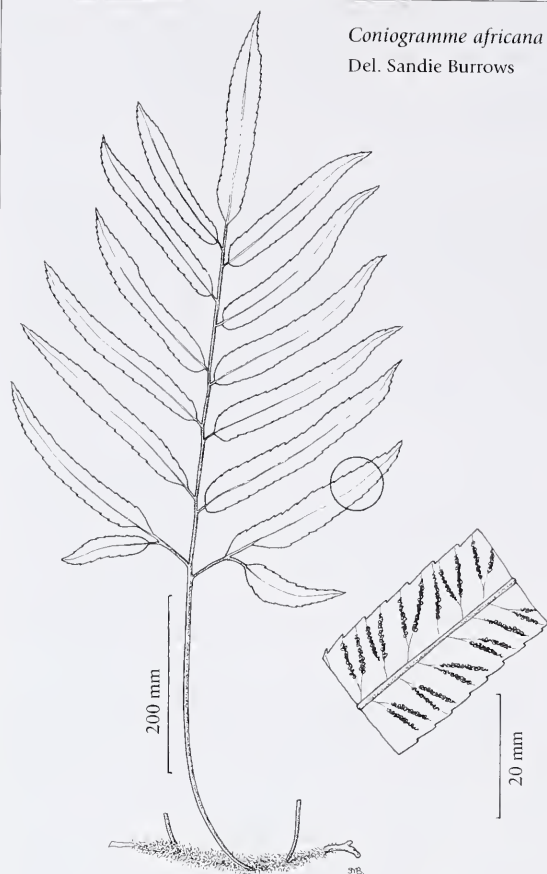


Adiantum poiretii

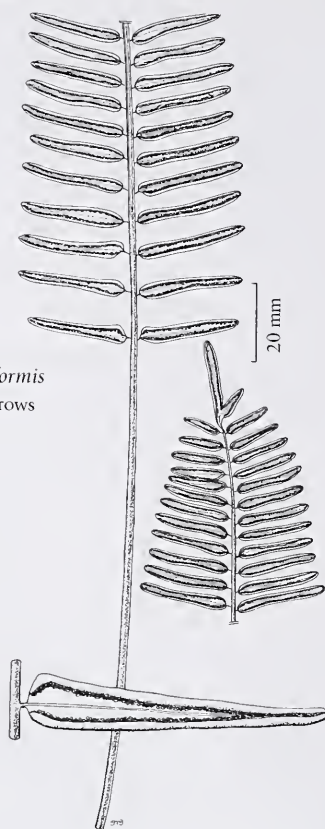


Cheilanthes farinosa
Del. Sandie Burrows

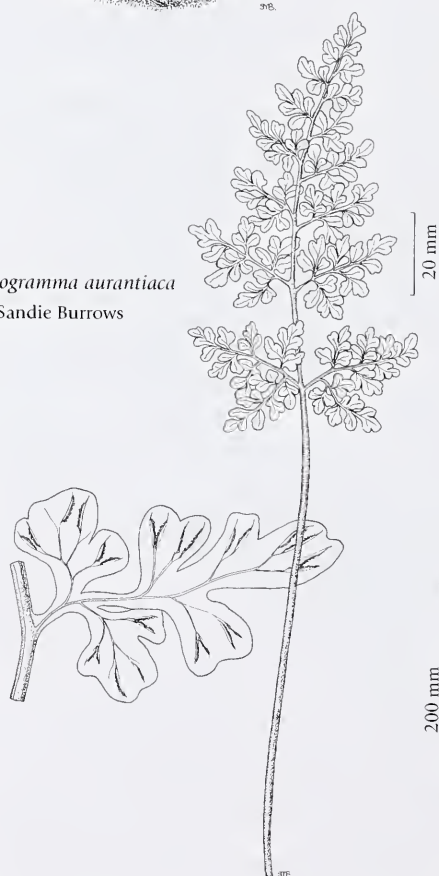
Coniogramme africana
Del. Sandie Burrows



Pellaea pectiniformis
Del. Sandie Burrows



Pityrogramma aurantiaca
Del. Sandie Burrows



Pteris dentata

Pteris cretica
Del. Sandie Burrows

Malawi. Nyika Plateau, Thazima Gate, 2000, *Burrows & Burrows* 6827 (MAL, NBG, UZL).

Zambia. Nyika Plateau, Manyenere and Chowo Forests, Zovochipolo (Dowsett-Lemaire 1985: 318).

SCHIZAEACEAE

Anemia angolensis Alston ❖

Terrestrial fern with prostrate rhizome; fronds somewhat dimorphic, the fertile fronds taller than the sterile, sterile lamina ovate or lanceolate, 2- to 3-pinnatifid, hairy, fertile fronds as for the sterile ones, but with a pair of erect specialised pinnae, much-contracted, bearing numerous sporangia; in undergrowth of dry woodland, 600–1,525 m. Zimbabwe, Mozambique, Malawi, Zambia, Angola, and D.R.C.

Malawi. Livingstonia Escarpment, *la Croix* 3601 (MAL).

Mohria lepigera (Baker) Baker

Terrestrial fern, rhizome short, horizontal; fronds tufted, erect, 2-pinnatifid to 2-pinnate, upper surface variously hairy, lower surface variously set with pale brown ovate scales; sori marginal, exindusiate; sometimes forming colonies, in rocky areas and around boulders in high rainfall miombo woodland; 1,370–1,890 m. Zimbabwe, Zambia, Malawi, Mozambique, Tanzania, Rwanda, Burundi, and D.R.C.

Malawi. Nyika National Park, Chisanga Falls, *Burrows & Burrows* 6756 (MAL, NBG, PRE, UZL); Nthakati Peak, *Willis, Patel & Luhanga* 147 (PRE).

Mohria marginalis (Savigny) J.P.Roux

Mohria hirsuta J.P.Roux

Terrestrial fern, stoloniferous; rhizome short, horizontal; fronds erect, tufted, pinnate, lower surface sparsely to densely set with hairs; sori marginal,

exindusiate; in montane grassland in rocky areas; 1,400–2,500 m. South Africa to Burundi.

Malawi. Nyika National Park, Chosi Hill, 2000, *Burrows & Burrows* 6750 (NBG, K, MAL, UZL).

Mohria nudiuscula J.P.Roux

Terrestrial fern, rhizome short, horizontal; fronds tufted, erect, leathery, both surfaces almost without hairs or scales; sori marginal, exindusiate; in montane grassland. South Africa to Zambia, D.R.C., and Tanzania; also in Madagascar. Recorded by Roux from the Nyika (Roux 1995), but he quotes no linked specimens nor has any material been seen from there.

Mohria vestita Baker ❖

Mohria caffrorum auctt. non (L.) Desv.

Terrestrial fern, rhizome short, horizontal; fronds erect, tufted, 2-pinnatifid to 2-pinnate, upper surface more or less glabrous, with yellow glands or white hairs, lower surface densely set with pale brown lanceolate scale; sori marginal, exindusiate; in montane grassland, often in rocky areas, in full sun; 1,000–2,500 m. South Africa to Angola and Kenya; also on Madagascar. The most common species of *Mohria* on the Nyika.

Malawi. Nyika National Park, 5 km W. of Nganda Hill, 2000, *Burrows & Burrows* 6857 (NBG, K, MAL, UZL).

SELAGINELLACEAE

Selaginella goudotiana Spring var. **abyssinica** (Spring) Bizzarri

Selaginella whytei Hieron.

Moss-like, with more or less erect, ovate to almost triangular 'fronds'; leaves dimorphic, lateral leaves lanceolate, 1.75–2.5 × 0.5–1.75 mm, with a few fine teeth; strobilus terminal, sporophylls in two ranks; terrestrial or on mossy rocks, on forest margins, along shady streams or among shaded boulders in grassland or moist woodland; 1,200–2,100 m. Zimbabwe to Ethiopia and D.R.C.

Source. Burrows (1990: 29).

Malawi. Nyika Plateau, Zovochipolo, 1999, *Burrows* 6488 (Buffelskloof Herbarium).

Zambia. Nyika Plateau, Kaperekezi Road, 2000, *Phiri* 3558 (UZL).

Selaginella kraussiana (Kunze) A.Braun ❖

Sift, rather lax moss-like plant, much-branched, often rooting at branch

junctions; leaves dimorphic, lateral leaves linear-elliptic, 3–4 × 0.75–1.5 mm, margins serrate; strobilus terminal on ultimate branches, sporophylls in two ranks; terrestrial on shaded and moist forest floors, often forming mats, sometimes weedy on shaded paths; 1,200–2,500 m. South Africa to Cameroon, D.R.C., Kenya, and Tanzania.

Source. Dowsett-Lemaire (1985: 375).

No country given. Nyika Plateau, without precise locality, *Dowsett-Lemaire* 214 (herbarium not recorded).

Selaginella njam-njamensis Hieron. ❖

Moss-like, prostrate plant with a short branching system; leaves all of one kind, lanceolate to triangular-ligulate, margins ciliate; strobili apical, sporophylls in 4 ranks; a plant of rocky places; 900–910 m. Scattered in Central Africa. Three localities only are listed in *Flora zambesiaca*: southern Malawi, northern Mozambique, and S.E. Zambia.

No country given. Nyika Plateau, without precise locality (Mill 1979).

THELYPTERIDACEAE

Thelypteris bergiana (Schlecht.) Ching ❖

Terrestrial fern, rhizome erect to reclining; fronds tufted, 1–2 basal pinnae reduced, veins not uniting below the sinus between the ultimate pinnae lobes; sori round, indusium very small, sparsely hairy; along streams in montane forest or scrub, or in montane grassland; 2,000–2,300 m (lower in South Africa). Widespread in the Afromontane regions of eastern and central Africa; also on Madagascar and Réunion.

Source. Kornas (1979: 87); Burrows (1990: 267).

Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 318).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White* 2727 (BM, K).

Thelypteris chaseana Schelpe

Terrestrial fern, rhizome creeping, fronds tufted, twice-divided with the basal 3–5 pairs of pinnae reduced and/or deflexed, one pair of veins uniting below the sinus between the ultimate pinnae lobes; sori round, indusium with long white hairs; in *Raphia* grove along stream in miombo woodland; 600–1,800 m. South Africa to Angola, D.R.C., and Kenya.

Malawi. Nyika National Park, Thazima Gate, 2000, *Burrows & Burrows* 6828 (MAL, NBG).

Thelypteris confluens (Thunb.) Morton

Rhizome subterranean, slender, and widely creeping; fronds erect, 2-pinnatifid to 2-pinnate, veins completely free; sori circular, set more or less halfway between the costules and the margin, often appearing to form a continuous row, indusium hairless; a gregarious fern of marshy areas in full sun, often forming extensive colonies; sea-level to 2,150 m. Widespread in tropical Africa; also in Madagascar, southern Asia, Australia, and New Zealand.

Source. Brummitt (1973).

Malawi. Nyika Plateau, N.W. foot of Nganda, 1972, *Brummitt & Synge* 16 (K, MAL).

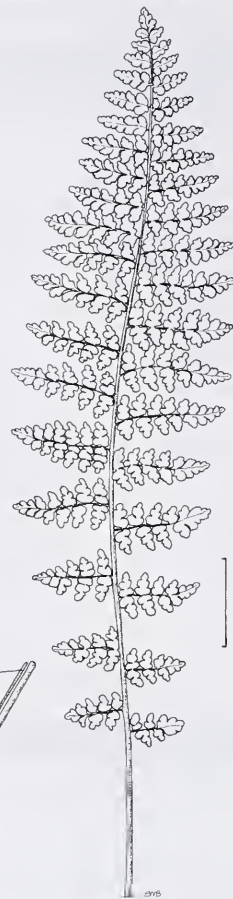
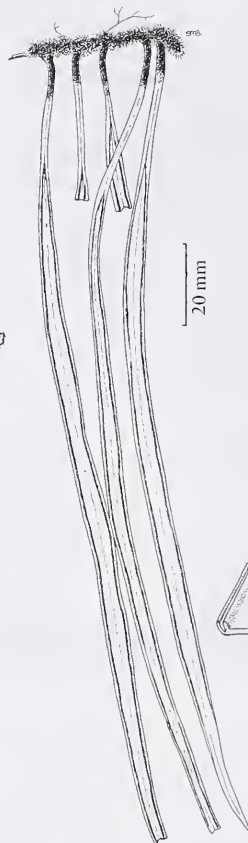
Thelypteris dentata (Forssk.) E.St.John var. **dentata**

Terrestrial fern, rhizome shortly creeping with closely-spaced fronds; fronds lanceolate with 1–2 pairs of reduced basal pinnae; with one pair plus a single vein uniting below the sinus between the ultimate pinnae lobes; sori

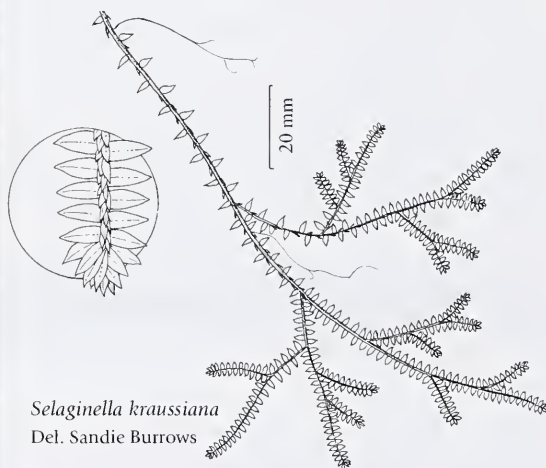
Anemia angolensis
Del. Sandie Burrows



Vittaria guineensis
var. *orientalis*
Del. Sandie Burrows



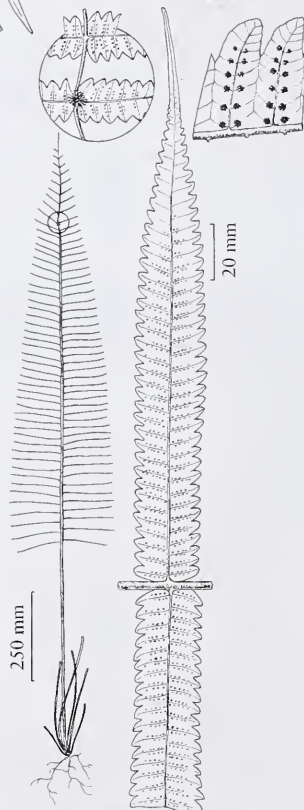
Mohria vestita
Del. Sandie Burrows



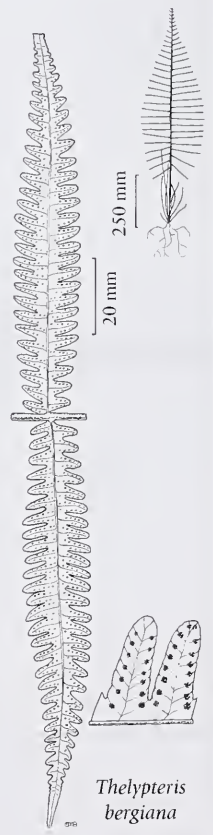
Selaginella kraussiana
Del. Sandie Burrows



Selaginella njam-njamensis



Thelypteris madagascariensis



Thelypteris bergiana
Del. Sandie Burrows

round, indusium hairy; in forest and thicket along streams; 800–2,050 m. Widespread in Africa; also in Yemen, Madagascar, southern Asia, Australia, and New Zealand; introduced into tropical America. Apparently rare on the Nyika.

Malawi. Nyika Plateau, without precise locality (Dowsett-Lemaire 1985: 318).

Zambia. Nyika Plateau, Manyenere Forest (Dowsett-Lemaire 1985: 318).

Thelypteris friesii (Brause) Schelpe

Large terrestrial fern, rhizome creeping with closely-spaced, twice-divided fronds to 2 m long, the stipe with much-reduced vestigial pinnae along most of its length, basal pair of veins not uniting below the sinus between the ultimate lobes; sori round, indusium with a few white hairs; in wet montane riverine forest; 700–2,200 m. Zimbabwe, Malawi, and Zambia. First record for Malawi (N.).

Malawi. Nyika National Park, Wovwe River, 2000, *Burrows & Burrows* 6904 (MAL, NBG).

Thelypteris madagascariensis (Fée) Schelpe ✧

Large terrestrial fern, rhizome erect; fronds tufted, massive, arching, to 2 m long, proliferous near the apex, often rooting where the gemmae touch ground; 4–5 pairs of veins uniting below the sinus between the ultimate pinnae lobes; sori round, exindusiate; on deeply shaded stream banks or seepage zones in wet evergreen forest; 1,100–2,200 m. Widespread in tropical Africa and Madagascar, but very rare on the Nyika.

Source. Dowsett-Lemaire (1985: 318).

Malawi. Nyika Plateau, Zovochipolo, *Dowsett-Lemaire* 205 (?K).

Thelypteris oppositifolia (C.Ch.) Ching

Amauropelta strigosa (Willd.) Holtt.

Terrestrial fern, rhizome erect, fronds tufted, the basal pinnae decreasing in

size basally, veins not uniting below the sinus between the ultimate lobes, lower surface of the frond set with minute yellowish or reddish glands; sori round, apparently exindusiate; often common on moist stream banks in light shade or full sun at high altitudes; 1,800–2,400 m. South Africa northwards to Nigeria and Ethiopia; also on Madagascar.

Source. Schelpe (1970: 193); Burrows (1990: 270).

Malawi. Nyika Plateau, without precise locality, 1946, *Brass* 17219 (K, SRGH); Chelinda Camp, 2000, *Burrows & Burrows* 6950 (MAL, PRE, UZL).

Thelypteris pozoi (Lagasca) Morton

Rhizome shortly creeping then ascending; fronds tufted, lanceolate, set with small pale hairs, veins not or barely touching at the sinus between the ultimate pinnae lobes; sori oval to linear, set along the veins, exindusiate; in deep shade of forest in wet situations along streams or seepage zones; to 2,500 m. Widespread in Africa; also on Madeira, the Azores, and in Spain.

Malawi. Nyika Plateau, Kasyaula, *Dowsett-Lemaire* 387 (MAL).

Zambia. Nyika Plateau, 4 km S.W. of Rest House, 1958, *Robson* 311 (K, LIS, SRGH).

Thelypteris pulchra (Bory ex Willd.) Schelpe

Thelypteris longicuspis (Baker) Schelpe; *Pseudocyclosorus pulcher* (Bory ex Willd.) Holtt.

Terrestrial fern, rhizome erect, robust; fronds tufted, stipe bearing reduced vestigial pinnae down more or less half of its length, veins not uniting below the sinuses of the pinnae lobes; sori round, in two rows between margin and costule, indusium lacerate, glandular; in forest on stream banks; ca 2,200 m. South Africa through much of central Africa to Cameroon and Ethiopia; also on Madagascar and Mauritius. Very rare, known only from a single collection on Nyika.

Malawi. Nyika Plateau, Zovochipolo, *Dowsett-Lemaire* 285 (MAL).

VITTARIACEAE

Vittaria guineensis Desv. var. *orientalis* Hieron. ✧●

Epiphytic or lithophytic fern, rhizome short, creeping; leaves tufted, slender, grass-like, pendulous, to 450 mm long, dark green, hairless; sporangia embedded in two narrow grooves running the length of the frond; on Nyika an epiphyte in moist forest; 1,420–2,200 m. Zimbabwe to Ethiopia.

Source. Kornas (1979: 68).

Malawi. Nyika Plateau, Kasaramba Road, 16 km from Chelinda, *Simon, Williamson & Ball* 1708 (K); road to Chelinda Bridge, 2000, *Burrows & Burrows* 6886 (NBG, PRE, UZL).

Zambia. Nyika Plateau, Manyenere Forest, 2000, *Phiri* 3911 (PRE, UZL).

GYMNOSPERMS

CUPRESSACEAE

Juniperus procera Hochst. ex Endl. ❖●

African pencil cedar; *Tonga*: changalumwe

Tree to 40 m tall, rather cypress-like, bark flaking in long thin strips, cones fleshy, berry-like, blue-grey, smelling of gin when crushed. Widespread in the E. African mountains, but in the *Flora zambesiaca* area confined to the Nyika Plateau (mainly in the Juniper Forest Reserve) and a single specimen

in E. Zimbabwe (Burrows 1995). A valuable timber tree, but like many other conifers, extremely susceptible to fire.

Source. *Flora zambesiaca* 1(1): 88 (1960).

Malawi. Nyika Plateau, without precise locality, 1946, *Brass* 17159 (BM, K, SRGH); Juniper Forest Reserve, 2000, *Burrows & Burrows* 6920 (MAL, PRE, SRGH, UZL).

PINACEAE

***Pinus patula** Schltdl. & Cham. ❖

hang-leaf pine

Tall conifer to 25 m or more, leaves composed of three slender and long needles in a small bundle, always hanging vertically; cones woody, ca

100 mm long, the hard, woody scales splitting open to release a winged seed. A native of Central America, but extremely widely cultivated as a plantation species in southern Africa. There is an extensive block of these trees surrounding the chalets at Chelinda.

PODOCARPACEAE

Afrocarpus falcata (Thunb.) C.N.Page ❖

Podocarpus falcatus (Thunb.) R.Br. ex Mirb.; *Podocarpus gracilior*

Pilger; *Afrocarpus gracilior* (Pilger) C.N.Page

yellow-wood

Large tree to 30 m, bark thinnish, greyish, flaking in chunky or rectangular plates, leaves narrowly lanceolate, sometimes slightly falcate, widest below the middle; fruit roundish, 15–20 mm diameter, yellowish when ripe, seed hard, woody, warty; in montane forest; Cape to Ethiopia (as the species is construed in its broad sense, but probably distinct from the E. African *P. gracilior*).

Source. Dowsett-Lemaire (1990: 86).

Malawi. Nyika Plateau, Kawoza, *Carter sub Dowsett-Lemaire* 342 (FHO).

Podocarpus ensiculus Melville

Tree to 30 m tall, bark grey-brown, longitudinally flaking or fibrous, leaves often pendulous, widest below the middle, 60–150 mm long, 3–8 mm wide; fruit solitary, ovoid to ellipsoid, 24–35 mm long, greenish yellow with a leathery skin; in upland rain-forest; known only from Tanzania and northern Malawi. Closely related to the South African *P. henkelii*; sometimes regarded as a synonym of that species by some authors (e.g. White *et al.* 2001), but maintained as distinct here (Melville 1958, Chapman & White

1970).

Source. Dowsett-Lemaire (1990: 87).

Malawi. Nyika Plateau, Mwenembwe, *Dowsett-Lemaire* 316 (FHO).

Podocarpus milanjanus Rendle ❖

yellow-wood; *Tumbuka*: mweye

Tree to 35 m tall, bark brown-grey, flaking in thin hanging strips, leaves linear-oblong, widest about the centre of the leaf, 60–120 mm long, 6–10 mm wide; female cones (fruit) a red fleshy receptacle bearing 1–2 blue-green berries, 9–12 mm long; sometimes dominant in montane forest; 1,300–2,300 m. Malawi (?or Zimbabwe) through Zambia to E. Africa. A valuable timber species. Closely related to the South African *P. latifolius*; sometimes regarded as a synonym of that species by some authors (e.g. White *et al.* 2001), but maintained as distinct here (Melville 1958, Chapman & White 1970).

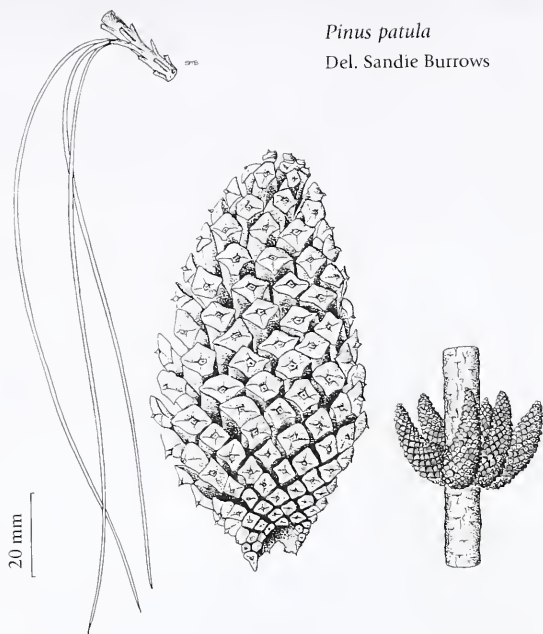
Source. *Flora zambesiaca* 1(1): 85 (1960).

Malawi. Nyika Plateau, without precise locality, 1946, *Brass* 17208 (SRGH).

Zambia. Nyika Plateau, Manyenjere, Kasoma and Chowo Forests, without collecting details (Dowsett-Lemaire 1985); Chowo Rocks Forest, 1956, *Chapman* 293 (FHO).



Juniperus procera
Del. Sandie Burrows



Pinus patula
Del. Sandie Burrows



Afrocarpus falcata
Del. Sandie Burrows



Podocarpus milanjanus
Del. Sandie Burrows

DICOTYLEDONS

ACANTHACEAE

Acanthopale confertiflora (Lindau) C.B.Clarke ❖

Dischistocalyx confertiflorus Lindau

Soft-wooded shrub or small tree 3–4 m high, sometimes with stilt roots; flowers white with purple streaks; gregarious in shrub layer in moist gullies of montane rainforest and montane forest. Malawi, E. D.R.C., Burundi, Tanzania, and N.E. Zambia.

Source. Dowsett-Lemaire (1985); White *et al.* (2001).

Zambia. S.W. Nyika Plateau, Chowo Forest, 1,850–2,150 m, *Dowsett-Lemaire 93* (K?).

Acanthus uleensis De Wild. ❖

Acanthus montanus auctt., non (Nees) Anderson

Semi-scandent, sparsely branched shrub up to 4 m high; leaves irregularly lobed, margin spiny towards the base; flowers pale mauve, rarely white; in undergrowth of montane rainforest. Malawi, D.R.C., Uganda, and Tanzania.

Source. Dowsett-Lemaire (1985); White *et al.* (2001).

No country given. Nyika Plateau.

Blepharis grandis C.B.Clarke ❖

Normally erect perennial herb to 1 m tall; leaves and bracts spiny, large leaf pair in whorl usually 2–3 times longer than smaller pair; flowers blue, each with a single three lobed corolla lip, set in clusters among prickly bracts; in tall grassland or forest margins. This species, from N.E. Zambia, Tanzania, Malawi, and N. Mozambique, is similar to *B. buchneri* Lindau, which tends to have a more westerly distribution range.

Source. Brummitt (1973).

Malawi. Nyika National Park, N.E. foot of Nganda, 1972, *Brummitt & Syngé 100* (K, MAL, SRGH, EA); North Rukuru Valley, 2000, *Winter 4126* (MAL); N.E. of Mwanda Ridge, 2000, *Winter 4160* (MAL).

Zambia. Nyika Plateau, Lawton 906 (K).

Brillantaisia kirungae Lindau ❖

Brillantaisia subulugurica Burkill; *Brillantaisia ulugurica* Lindau

Large shrub or small tree up to 4 m tall; leaves large, coarsely dentate; flowers large, dark blue; near streams and in moist undergrowth inside mid-altitude and montane rainforest. An Afromontane endemic from Sudan to Zimbabwe and Mozambique.

Source. Dowsett-Lemaire (1985); White *et al.* (2001).

Malawi. S.W. Nyika, Zovochipolo, *Dowsett-Lemaire 258* (K?).

Dicliptera maculata Nees ❖

Dicliptera lingulata C.B.Clarke

Similar to *Peristrophe paniculata*. Stems without prickles, glabrous; leaves 64 x 25 mm, base cuneate, petiole 6–19 mm long; bracts of inflorescence units linear or narrowly ovate, 8.5–12.7 x 1.6–2.1 mm, not widened upwards or ovate; calyx 5 mm long, minutely hairy; corolla pale to dark magenta, deeply two-lipped, hardly exceeding 13 mm in length. *D. maculata sensu* C.B.Clarke is a different species (*D. hirta* K.Balkwill); forest habitat. Tropical Africa.

Source. Dowsett-Lemaire (1985); PRE.

Malawi. Nyika National Park, Zovochipolo, 2,225 m, *la Croix 4630* (PRE, MO).

Zambia. Nyika Plateau, Chowo Forest, cf. *Dowsett-Lemaire 94* (K?).

Dicliptera verticillata (Forssk.) C.Christensen

Perennial herb with few inflorescences per leaf axil; bracts broadly elliptic to broadly obovate, margin sparsely ciliate; corolla longer than 14 mm, lips longer than 3 mm; in forest or coastal, ruderal. Widespread in tropical Africa.

Malawi. Nyika National Park, W. of Vitinthisa Hill, 2000, *Salubeni & Mwanyambo 6765* (MAL).

Dyschoriste hildebrandtii (S.Moore) Lindau

Dyschoriste fischeri Lindau

A spreading or erect, glandular and densely minutely hairy herb or low shrub; leaves ovate to obovate, slightly wavy-edged; flowers in rather loose, stalked cymes, mauve to greenish-purple, corolla tube usually longer than 20 mm; in savanna or dry wooded grassland; 340–1,500 (1,780) m. E. Africa, Zambia, Malawi, Mozambique, Zimbabwe, Botswana, and South Africa.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Dyschoriste nyassica Gilli

Source. Although no collection details were provided by Patel (1999) and the authenticity of this record could not be confirmed, the proximity of the following collection suggests that its occurrence is plausible here: Chitipa, 21 km SW of Chisenga path to Musitu Forest, 1,675 m, *Brummitt 12004* (PRE). Uncertainty regarding the original use of the name in the Patel list was indicated by a question mark following the specific epithet.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Dyschoriste verticillaris (T.Anders. ex Oliv.) C.B.Clarke ❖

Calophanes verticillaris T.Anders. ex Oliv.

Many-stemmed perennial, 0.7 m tall, branches glabrous except at the tips; calyx very hairy, almost woolly; flowers lilac with purple markings. Tanzania, S.E. D.R.C., S. tropical Africa, and Malawi.

Source. Brummitt (1973).

Malawi. Nyika National Park, E. foot of Nganda, 1972, *Brummitt & Syngé 113* (K, MAL, SRGH).

Hypoestes aristata (Vahl) Soland. ex Roem. & Schult. var. **aristata** ❖

Hypoestes verticillaris (L.f.) Roem. & Schult.; *Hypoestes aristata* var. *macrophylla* Nees

Perennial herb or subwoody shrub 1.5 m tall with appressed short soft hairs on all parts; inflorescence appearing verticillate, bracts aristate, flowers 24–36 mm long, pale mauve or pinkish purple, the three-lobed lip with darker markings, lip in lower position lanceolate; capsule 13.6 mm long; in savanna and forest. Widespread in southern and eastern Africa.

Source. Brummitt (1973); PRE.

Malawi. Nyika National Park, forest 3 km E. of Nganda, 1972, *Brummitt & Syngé 95* (K, MAL, SRGH); 8 km N.N.W. of Lake Kaulime, camp near North Rukuru River, 2,020 m, *Brummitt 10828* (PRE).

Hypoestes aristata (Vahl) Soland. ex Roem. & Schult. var. **alba** K.Balkwill

Perennial herb or subwoody shrub 1.5 m tall; bracts aristate; flowers 19–24 mm long, white, the three-lobed upper lip with magenta or purplish markings; lip in lower position narrowly elliptic; capsule 10–11 mm long. Confined to the Afromontane region. As this variety was, until now, assumed restricted to southern Africa, the possibility of this name being misapplied to *H. forskaolii* must be kept in mind (Balkwill, pers. comm.).

Source. Brummitt (1973); PRE.

Malawi. Nyika National Park, Juniper Forest, 2000, *Burrows & Burrows 6940* (MAL, PRE); *Pawek 11814* (MO, UC, K, PRE, SRGH, MAL).

Hypoestes forskaolii (Vahl) R.Br.

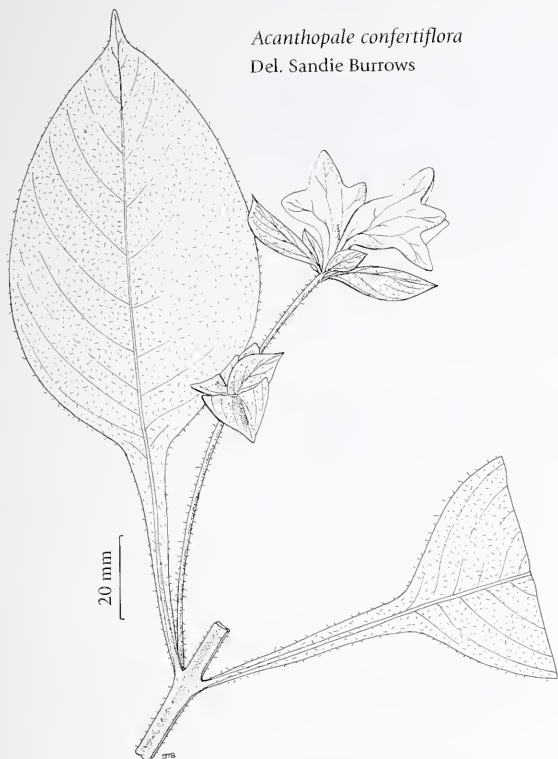
Hypoestes verticillaris auctt. plur. non (L.f.) Roem. & Schult.

Stoloniferous herb; bracts lanceolate; flowers 14–22 mm long, white, pink or light lilac, the three-lobed upper lip with dark purple markings, lip in lower position usually narrowly truncate or ovate; capsule 8–11 mm long; occurring in a wide range of coastal to montane savanna and forest types. Widespread and common throughout most of Africa; also in Arabia.

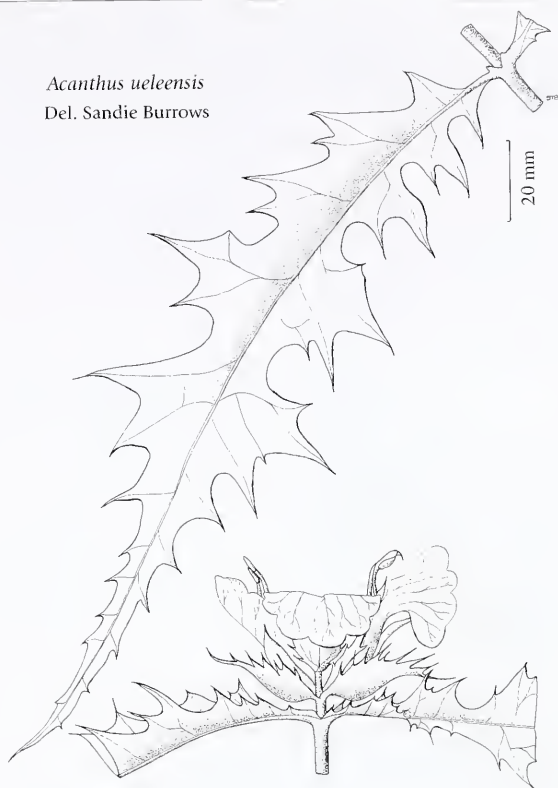
Source. Brummitt (1973); Dowsett-Lemaire (1985).

Malawi. Nyika National Park, Kawozya, forest E. of summit, 1972, *Brummitt*

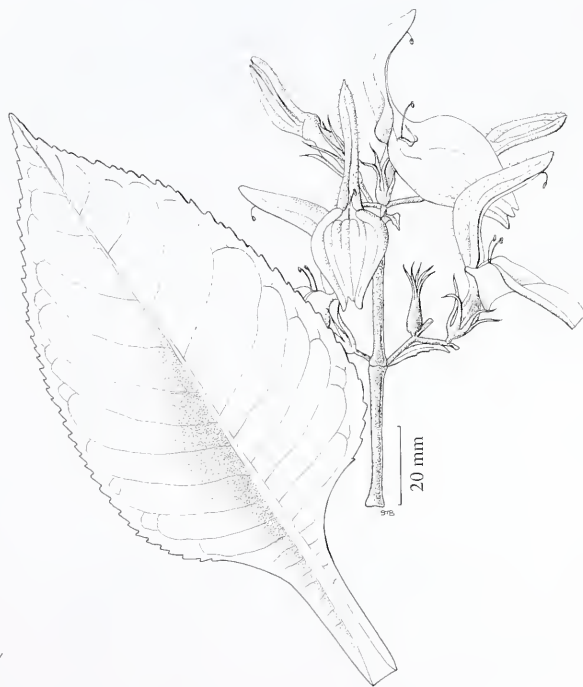
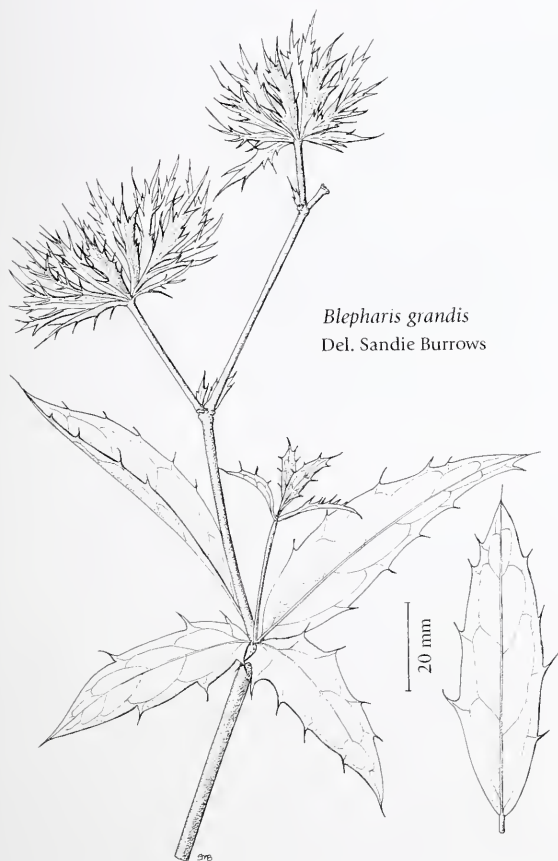
Acanthopale confertiflora
Del. Sandie Burrows



Acanthus ueleensis
Del. Sandie Burrows

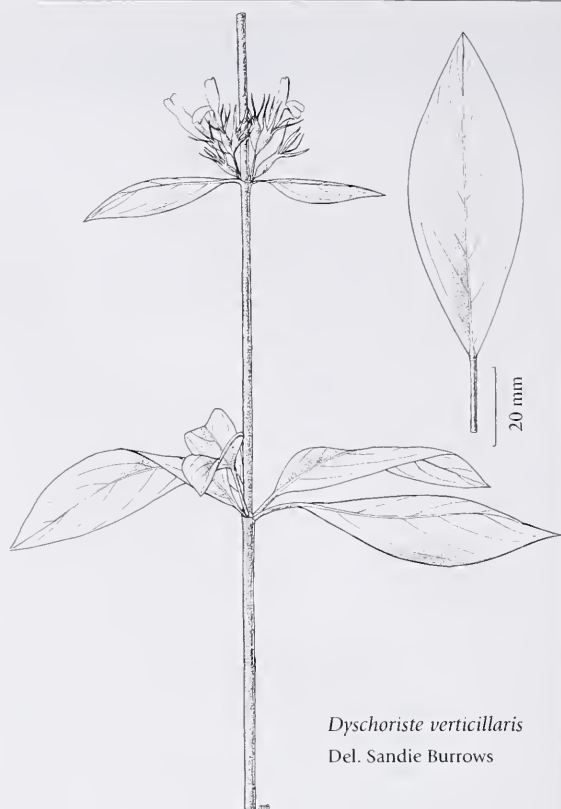
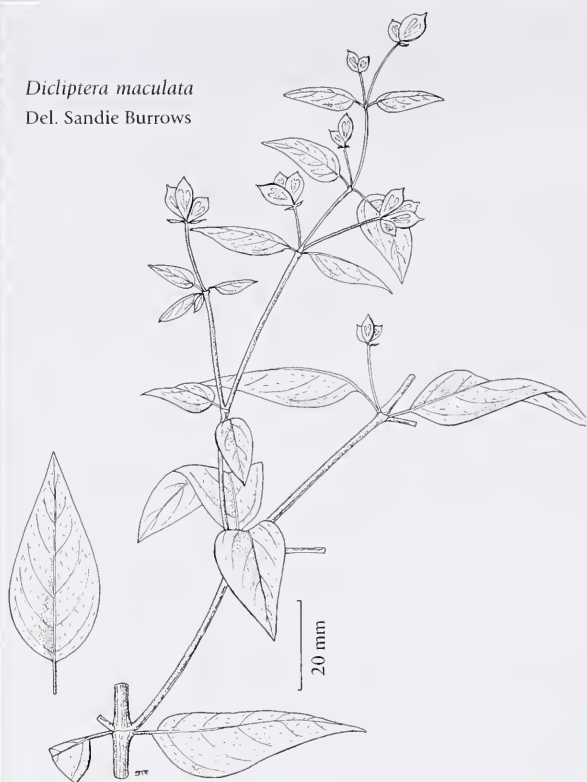


Blepharis grandis
Del. Sandie Burrows



Brillantaisia kirungae
Del. Sandie Burrows

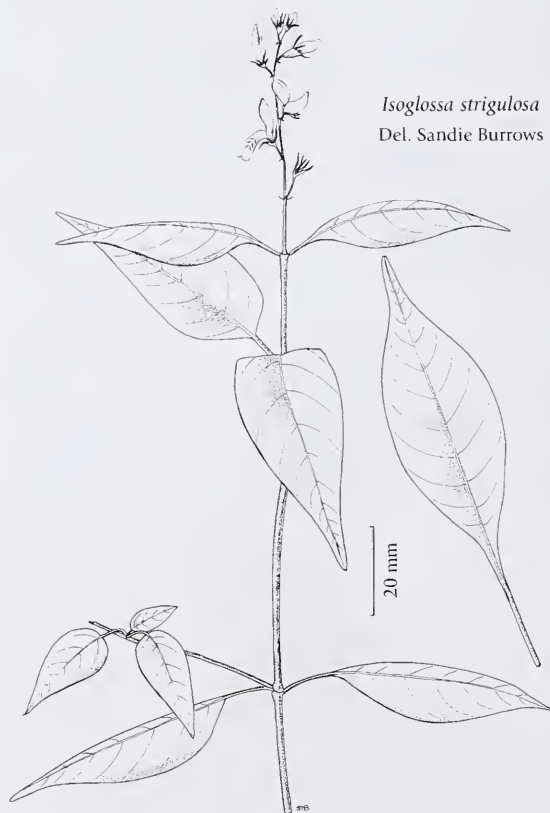
Dicliptera maculata
Del. Sandie Burrows



Dyschoriste verticillaris
Del. Sandie Burrows



Hypoestes aristata
Del. Sandie Burrows



Isoglossa strigulosa
Del. Sandie Burrows

& *Synge* 214 (K, MAL).

Zambia. Nyika Plateau, Chowo Forest, cf. *Dowsett-Lemaire* 96 (K?).

***Isoglossa substrobilina* C.B.Clarke or aff.**

Trailing herb with ascending stems and ovate-elliptic tapering leaves, flowers glandular-hairy in terminal and lateral uninterrupted spike-like racemes, bracts spoon-shaped or obovate. It is not known whether Dowsett-Lemaire's plant has been described as a separate taxon since the publication of her report and, as such, no detail was available on how it differs from the above description. Known from the Nyika Plateau and the Misuku Hills, in montane forest undergrowth.

Source. Dowsett-Lemaire (1985).

Zambia. Nyika Plateau, Chowo and Kasoma Forests, cf. *Dowsett-Lemaire* 260 (K?).

***Isoglossa strigulosa* C.B.Clarke ✧**

Ascending herb, 1–1.5 m tall; corolla expanded, white with dark red-purple marks; in montane forest undergrowth. Known only from the Nyika Plateau and the Misuku Hills.

Source. Brummitt (1973); PRE.

Zambia. Nyika Plateau, Chowo Forest, 2,160 m, Pawek 10027 (MO, PRE, UC, K, SRGH, MAL).

Malawi. Nyika National Park, Kawozya, forest E. of summit, 1972, *Brummitt & Synge* 215 (K, MAL, SRGH).

***Justicia linearispica* C.B.Clarke**

Herbaceous perennial herb from a woody root; leaves sessile, 25 mm x 6 mm, glabrescent; floral leaves scarcely 6 mm long, narrowly oblong or linear, sepals 4, flowers ca 8 mm long. Eastern and southern tropical Africa.

Source. UZL; PRE.

Malawi. Nyika National Park, without locality, 1958, *Robson* 193 (PRE); without locality, 2000, *Mwanyambo* 518 (MAL).

No country given. 1967, *Richards* 22451 (UZL).

***Justicia mollugo* C.B.Clarke**

Minute scabrous hispid annual herb; leaves oblong, up to 19 mm long; flowers axillary, sessile, clustered, corolla scarcely 5 mm long; in ephemeral habitats. Eastern tropical Africa.

Malawi. Nyika National Park, Domwe Viewpoint parking area, 2000, *Winter* 4103 (MAL); Fingira Rock, 2000, *Winter* 4233 (PRE).

***Justicia nuttii* C.B.Clarke**

Justicia goetzei Lindau; *Justicia schliebenii* Mildbr.

Small, pubescent herbaceous perennial with clustered stems up to 260 mm tall; leaves 20–37 mm x ca 15 mm; flowers ca 12 mm long, white with a few red markings on midlobe of lower lip; common in frequently burnt high-altitude short grassland. From the Iringa region in S. Tanzania to Dedza in central Malawi.

Malawi. Nyika National Park, hill E.S.E. of Dembo Bridge, 2000, *Winter* 4046 (MAL, PRE, SRGH, UZL); Mpopoti, 2000, *Mwanyambo* 553 (MAL); 2000, *Thera* 3056 (MAL).

***Justicia phyllostachys* C.B.Clarke**

Slender hairy perennial herb up to 0.6 m tall; leaves up to 100 x 41 mm, petiole up to 37 mm long; flowers in terminal spikes, floral leaves ca 16 mm long, ovate or elliptic, sepals 5, flowers 10–19 mm long, varying from mauve-pink to red purple with purple nectar guides or with white markings on midlobe of lower lip; in scrub or forest margins. D.R.C., Tanzania, Angola, Zambia, Malawi, Mozambique, and Zimbabwe.

Malawi. Nyika Plateau, 1896, *Whyte* 118 (K, holo.); North Rukuru Valley, 2000, *Winter* 4117 (MAL).

Zambia. Nyika Plateau, near Rest House on Chisanga Falls Road, 2000, *Winter* 4014 (UZL).

***Justicia striata* (Klotzsch) Bullock ✧**

Adhatoda striata Klotzsch; *Justicia melampyrum* S.Moore

Very variable, slender herb of open forest and woodland, supported by surrounding shrubs and grasses; leaves mostly elliptic-oblong, short-petioled,

38–52 mm long, but lower leaves can be broadly ovate with longer petioles; flowers axillary, floral leaves usually round or ovate, flowers usually white, also pale mauve or magenta, 8.5–10(–13) mm long. Widespread throughout tropical Africa. This name may have been misapplied to *J. phyllostachys* C.B.Clarke (above).

Malawi. Nyika National Park, Vithinza Hill slope, 2000, *Mwanyambo* 575 (MAL).

***Lepidagathis sparsiceps* C.B.Clarke ✧**

Procombent perennial herb with linear leaves; flowers all at base of stems, heads woolly; on sparsely vegetated, gravelly slopes. Eastern Africa.

Source. Brummitt (1973).

Malawi. Nyika National Park, S. slopes of Kawozya, 1972, *Brummitt & Synge* 173 (K, MAL, SRGH); N. Rukuru Valley, 2000, *Winter* 4110 (MAL).

***Mellera submutica* C.B.Clarke ✧**

Onus submuticus (C.B.Clarke) Gilli; *Pseudobarleria lindau* Dewevre

Perennial similar to *Mimulopsis*, 1 m tall; leaves ovate, 75 x 50 mm, cordate, margin toothed; inflorescence pyramidal, glandular, flowers 25 mm long, lilac-blue with orange throat, tube gradually dilated upwards, mouth very oblique, 2-lipped, anticus lobe twice as broad as the others. Eastern Africa.

Source. Brummitt (1973).

Malawi. Nyika National Park, S. slopes of Kawozya, 1972, *Brummitt & Synge* 186 (K, MAL, SRGH).

***Metarungia pubinervia* (T.Anders.) Baden ✧**

Anisotes pubinervis (T.Anders.) Heine; *Macrorungia pubinervia* (T.Anders.) C.B.Clarke

Shrub or rarely small tree similar to *Anisotes nyassae*, 2–5 m high, sometimes with aerial roots; leaves short-stalked, to 200 x 80 mm; spikes axillary, one-sided, 60 mm long, hanging, often borne on bare branches below the leaves; bracts pinkish, ovate to elliptic, flat, 10–14(19) mm long, with a hyaline margin; flowers red or maroon, rarely white, 30 mm long; lower lip lobed at tip only; in undergrowth of drier forests. Ethiopia to South Africa. Baden's (1981b) assertion (based on a single character) that *Macrorungia* was not closely related to *Anisotes* is unconvincing.

Source. Dowsett-Lemaire (1985).

Malawi. Nyika National Park, Kasyaula Forest, cf. *Dowsett-Lemaire* 188 (K?).

Zambia. Nyika Plateau, Kasoma Forest, *Dowsett-Lemaire* 259 (K?).

***Mimulopsis solmsii* Schweinf. ✧**

Mimulopsis violacea Lindau; *Mimulopsis sesamoides* S.Moore

Ascending, scrambling shrub up to 2.5 m tall, often covered with long reddish hairs; leaves ovate, to 150 mm, often doubly round- or sharp-toothed; inflorescence glandular, flowers trumpet-shaped subequally 5-lobed, 30–35 mm long, white to pale blue or lilac with orange markings, or yellowish with purple guide lines within. Widespread in tropical Africa.

Source. Brummitt (1973); Dowsett-Lemaire (1985).

Malawi. Nyika National Park, Kawozya summit, 1972, *Brummitt & Synge* 200 (K, MAL).

Zambia. Nyika Plateau, Manyenjere and Chowo Forests, cf. *Dowsett-Lemaire* 261 (K?).

***Monechma varians* C.B.Clarke ✧**

Stems simple, 300 mm from a woody rootstock; flowers white, similar to those of *Justicia*; seeds solitary in each cell, and smooth (2 per cell and rough in *Justicia*). Endemic to the Nyika Plateau.

Source. Brummitt (1973).

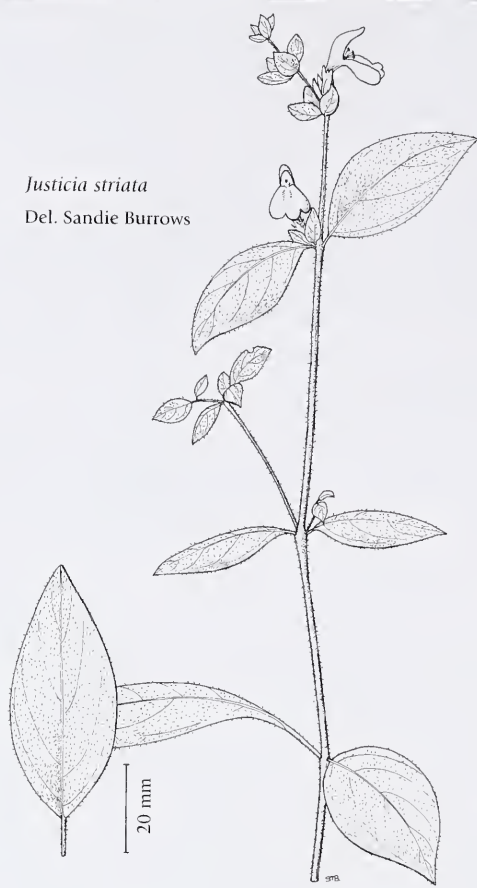
Malawi. Nyika National Park, Sawi Valley, 1972, *Synge* 437 (K, MAL).

***Peristrophe aculeata* (C.B.Clarke) R.K.Brummitt ✧**

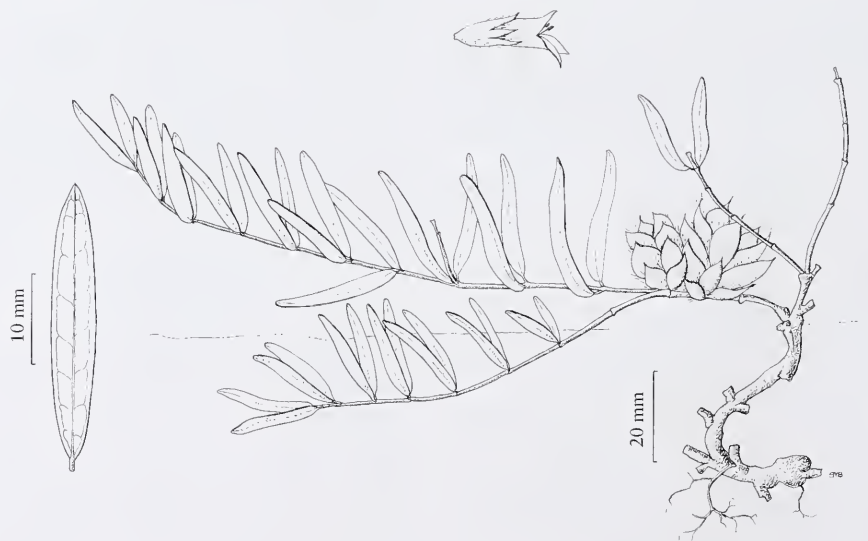
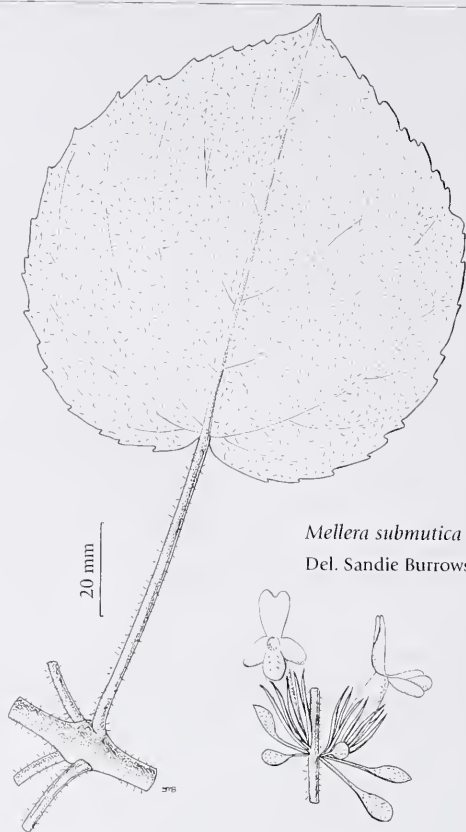
DiCLIPTERA aculeata C.B.Clarke

Similar to *P. paniculata*, but perennial, and with a 17–27 mm long corolla; in woodland. Northern Malawi. This record casts further doubt onto the occurrence of *P. paniculata* on the Nyika Plateau. The placental type is the only consistent character for distinguishing *Peristrophe* from *DiCLIPTERA* (Balkwill 1996a, 1996b).

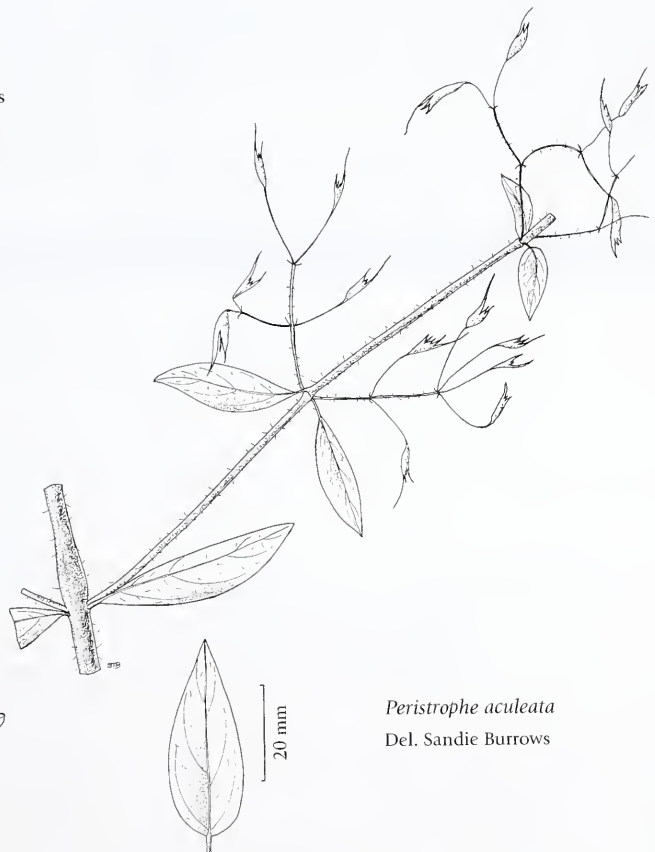
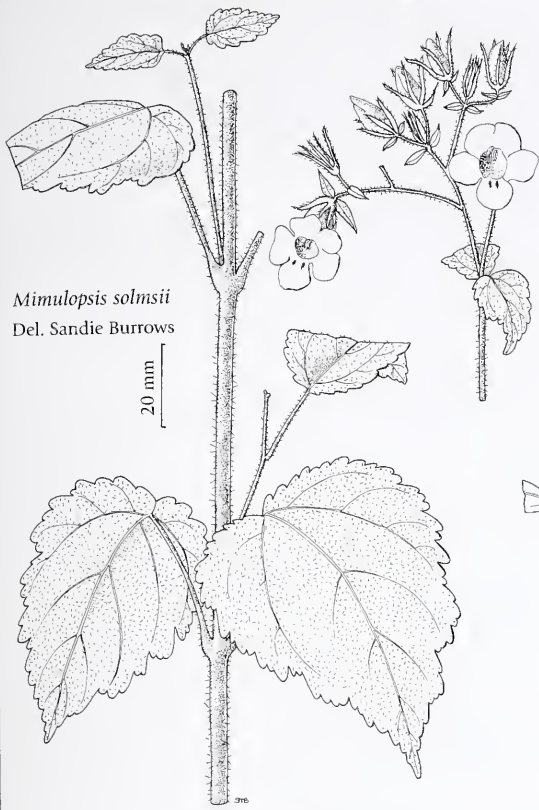
Justicia striata
Del. Sandie Burrows



Mellera submutica
Del. Sandie Burrows



Lepidagathis sparsiceps
Del. Sandie Burrows



Source. Brummitt (1991).

Malawi. Nyika Plateau, 1,220–1,830 m, 1896, Whyte s.n. (K, lecto.), 1,830–2,135 m, Whyte s.n. (K).

***Peristrophe paniculata* (Forssk.) Brummitt**

Dianthera bicalyculata Retz.; *Justicia bicalyculata* (Retz.) Vahl;

?*Peristrophe dewewerei* De Wild. & Durand

Usually unbranched erect annual herb to 2 m, stems 6-ridged; leaves shortly stalked, 60–110 x 30–40 mm; flowers magenta, 10 mm long, in a large branched panicle, paired bracts very different in size; in open bush land and dry rocky soils up to 1,500 m. Namibia to India. As the dry habitat typical for this taxon is not represented in the Nyika National Park, there is a possibility that the name is misapplied here. The situation requires investigation to assess the occurrence of *P. paniculata* and the identity of *P. dewewerei*. Similar to *Dicliptera maculata*.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Peristrophe pumila* (Lindau) Gilli**

Dicliptera pumila (Lindau) Dandy ex Brenan; *Peristrophe usta*

C.B. Clarke

Creeping or suberect, hairy pyrophyte, with stems 100 mm tall from a woody rootstock; leaves elliptic, to 40 mm long; flowers in erect spikes, bracts with dense stalked glandular hairs, petals white, mauve-tipped or magenta; in short or open and wooded grassland, usually flowering before the leaves are fully developed, soon after fire. Sudan to Zimbabwe.

Source. Brummitt (1973).

Malawi. Nyika National Park, valley N. of Nganda, 1972, *Synge* 387 (K, MAL).

***Phaulopsis imbricata* (Forssk.) Sweet ❖**

Ruellia imbricata Forssk.; *Aetheilema imbricatum* (Forssk.) Spreng;

Micranthus imbricatus (Forssk.) O.Kuntze

Glandular-hairy trailing herb with ascending stems and stalked leaves; leaves of a pair usually unequal, bases asymmetrical; flowers white with a bent tube, small, in clusters with overlapping, pale, ciliate bracts; in shade or semi-shade in woodland or forest margins. Widespread in eastern and southern Africa.

Malawi. Nyika National Park, Fingira Rock, 2000, *Winter* 4219 (MAL).

***Thunbergia alata* Bojer ex Sims ❖**

Thunbergia fuscata T.Anders. ex Lindau; *Valentiana volubilis* Raf.

Climbing perennial herb up to 3 m, petiole winged; leaves arrow-shaped with five veins from the base; flowers yellow or orange, with a black or

deep purple throat; bush land and thicket. Widespread in eastern and W. Africa; also on Mauritius.

Source. Brummitt (1973).

Malawi. Nyika National Park, Vithintha Hill slope, 2000, *Mwanyambo* 576 (MAL); Jalawe Viewpoint, 2000, *Thera* 3074 (MAL); North Rukuru Valley, 2000, *Winter* 4116 (MAL, PRE); 8 km E. of Nganda, 1972, *Brummitt, Munthali & Synge* 125 (K, MAL, SRGH).

***Thunbergia kirkiana* T.Anders.**

Low semi-procumbent perennial herb; leaf bases sometimes slightly winged, giving the leaf an arrow shape; flowers large, translucent white with a yellow throat; in miombo woodland, spring-flowering. D.R.C., Tanzania, Angola, Zambia, Malawi, Mozambique, and Zimbabwe.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Thunbergia lancifolia* T.Anders.**

Herbaceous perennial up to 600 mm tall, with erect annual stems from a woody rootstock; leaves narrowly elliptic; flowers ca 50 mm diameter, pale to dark blue or tinged with violet, throat yellow, corolla tube slightly inflated, calyx covered with minute glistening hairs; in open grassland, or along the edge of *Brachystegia* woodland, spring-flowering. From Ethiopia to Zimbabwe.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Thunbergia mollis* Lindau**

Stem with a rusty pubescence or glabrous; leaves ovate, cordate or hastate, 60 x 36 mm, strigose on both sides, petiole rusty pubescent, 25 mm long; bracteoles 5-nerved, the middle one forming a marked keel; corolla large, purple above, tube 38 mm long; habitat unknown. Distribution range outside of Malawi is unknown.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Thunbergia petersiana* Lindau**

Stem-climbing, with scattered hairs; leaves cordate, long acuminate, 75 x 57 mm, pilose on both sides, petiole more than 50 mm long; bracteoles 3-nerved and 3-keeled, reticulated; corolla large, violet, tube 25 mm long. As this taxon was originally known from the lower Zambezi River basin in Mozambique, presumably in a different habitat, there is some doubt as to whether the Nyika taxon is the same.

Source. Dowsett-Lemaire (1985).

No country given. Nyika Plateau, cf. *Dowsett-Lemaire* 263 (K?).

Excluded species

***Anisotes nyassae* Baden**

Found in the Karonga district of Malawi, S. Tanzania, and N.E. Zambia. Dowsett-Lemaire's record appears to be a sight record, based on material in bud, which 'appeared similar to *A. nyassae* collected in the nearby forests of the N. Viphya.' Since she recorded the similar *Metarungia pubinervia* as well, it seems possible that both taxa could occur on the Nyika, but since there is no specimen to confirm its existence, it is excluded here.

Malawi. Nyika Plateau, eastern escarpment submontane forests (Dowsett-Lemaire 1985: 354).

***Blepharis buchneri* Lindau**

Large leaf pair in whorls more than (3–)5 times longer than smaller pair. Smaller pair rhomboid-triangular, 3(–7)-veined from the base, rarely pinnately veined. The correct application of this name is doubted, as *B. buchneri* is not recorded for Malawi in the recent revision, and as this name has often been used erroneously for what is actually *B. grandis*.

Source. Vollesen (2000).

Malawi. Nyika National Park, Runyina River, 2000, *Phiri* 3784 (MAL).

No country given. *Verboom* s.n. (UZL).

***Dyschoriste albiflora* Lindau**

The authenticity of this record could not be confirmed. Known only from

Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Justicia kirkiana* T.Anders.**

Justicia fasciata Lindau

Slender erect annual herb; leaves narrowly lanceolate, up to 62 x 5 mm; flowers yellow, with a dark stripe on each lobe of the lower lip, bracts and calyx with long, cottony hairs. Known only from sandy savanna at low altitudes (*Flora of southern Africa*; PRE specimens from other localities). A doubtful record perhaps confused with *J. flava* (Vahl) Vahl.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

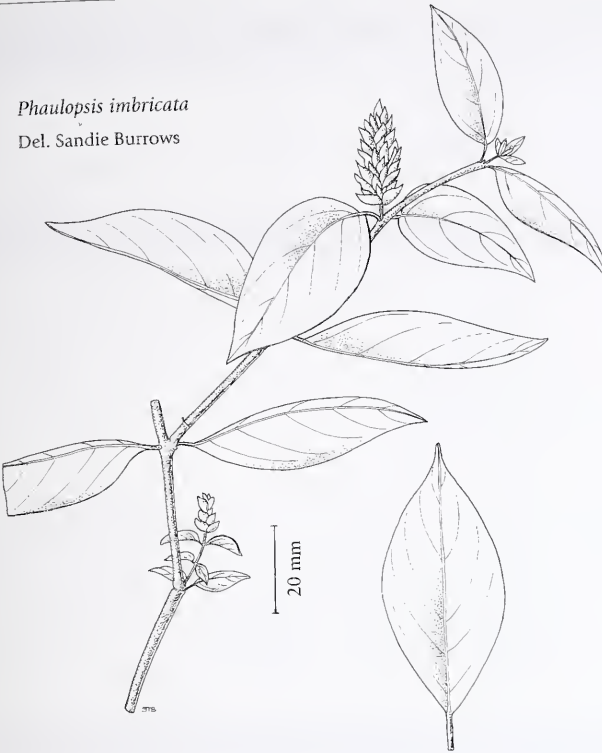
***Justicia petiolaris* (Nees) T.Anders. subsp. *bowiei* (C.B. Clarke) Immelman**

Justicia mutica C.B. Clarke

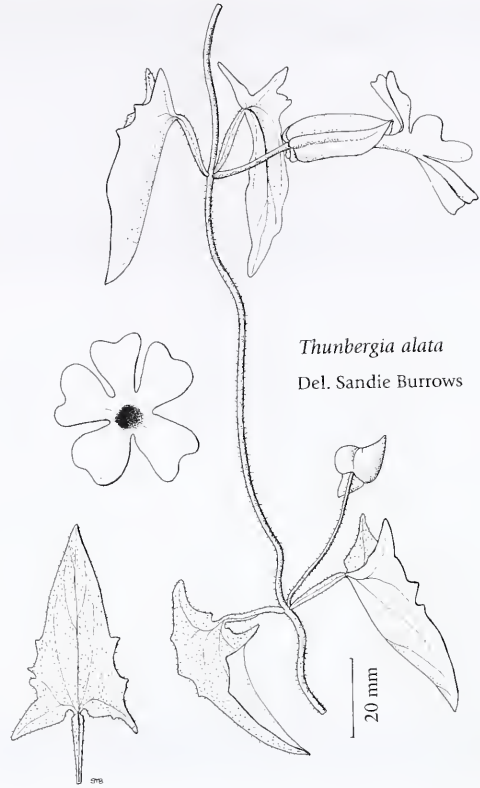
This species is known only from the Eastern Cape Province of South Africa. Confusion with *J. linearispica*, a species found on Nyika Plateau and from the same section, is suspected.

Malawi. Nyika National Park, Mpopoti Peak, 2000, *Izidine* 62 (LMA), det: H. Patel.

Phaulopsis imbricata
Del. Sandie Burrows



Thunbergia alata
Del. Sandie Burrows



Alangium chinense
Del. Sandie Burrows

ALANGIACEAE

Alangium chinense (Lour.) Harms ✧

Tree 9–30 m tall, leaves simple, base asymmetric, flowers white to yellow, ?sweetly scented; in lowland and upland forest, next to streams; up to 2,000 m in this area. Widespread in central Africa, extending through tropical Asia to Japan and Indonesia. A very rare tree in the *Flora zambesiaca*

area; in Malawi known only from two other areas (Misuku Hills and Usumara on the Viphya).

Source. Dowsett-Lemaire (1990: 75).

Malawi. Nyika Plateau, Kasyaula Forest, *Dowsett-Lemaire 335* (FHO).

AMARANTHACEAE

Note. It appears that this relatively large family is under-collected on the Nyika and many more than the three taxa listed below occur there.

Achyranthes aspera L. var. *pubescens* (Moq.) Townsend ✧

Erect or straggling perennial herb, stems 4-angled, leaves opposite, broadly elliptic, hairy; flowers in a slender terminal spike, minute and enclosed in a downward-pointing spiny bract; in many habitats, including evergreen forest, scrub, woodland, often as a weed in disturbed areas. Widespread throughout the tropics.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Amaranthus hybridus L. subsp. *cruentus* (L.) Thell. ✧

Amaranthus cruentus L.; *Amaranthus paniculatus* L.; *Amaranthus chlorostachys* auct. non Willd.

Robust annual herb to 2 m tall or more, leaves broadly lanceolate to rhomboid, more or less hairless; flowers in a dense terminal spike, red, green or

yellowish; in disturbed grassland, a weed of cultivation. This subspecies is presumed to be of (Central) American origin, but is now widespread in the tropical and subtropical regions of the world. However, if collected in the remote and almost uninhabited Nyika of 1903 (see specimen), then it seems unlikely to have been introduced.

Source. *Flora zambesiaca* 9(1): 14 (1988).

Malawi. Nyika Plateau, 1903, *McClounie 157* (K).

Cyathula cylindrica Moq. ✧

Perennial straggling herb with opposite simple leaves; inflorescence distinctive, a congested cylindrical spike of creamy bristle-like bracts, the spikes becoming attached to animals' fur and humans' clothing. Scrambling in forests margins, montane scrub, and *Brachystegia* woodland; 1,150–2,300 m. Widespread in Africa from Cameroon and Sudan S. to South Africa (Cape).

Source. *Flora zambesiaca* 9(1): 82 (1988).

Malawi. Nyika Plateau, 2,180 m, 1975, *Pawek 9968* (K, MAL, MO, SRGH, UC).

ANACARDIACEAE

Laanea discolor (Sond.) Engl.

livelong; *Chichewa*: sidiyatunga; *Yao*: chiumbu

Deciduous tree to 15 m tall, leaves alternate, imparipinnate, leaflets in 4–10 pairs, dark green above, whitish below; fruit a red to purple berry 9–15 × 7–10 mm, fleshy and edible; in open woodland of various types and on rocky hillsides. South Africa to D.R.C., Zambia, and Malawi. Bark used to cure diarrhoea, the poles used as a 'live fence'. Fruit edible and relished.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Laanea edulis (Sond.) Engl. ✧

Chichewa: ufulukula; *Yao*: mndyankamba

Suffrutex shrublet with annual stems arising from a large woody rootstock, leaves imparipinnate, leaflets in 1–3 pairs, hairy when young, glabrous later; fruit at ground level, in clusters, red, 9–11 × 6–7 mm, fleshy and edible; in open woodland, rocky hillsides, grassland, most evident after fires when it flowers. South Africa to Angola, D.R.C., and Uganda. A root extract is used to treat diarrhoea. Fruit is eaten.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Ozoroa insignis Delile subsp. *reticulata* (Baker f.) Gillett ✧

Much-branched evergreen tree to 15 m tall, leaves simple, alternate or in whorls of 3, variable in shape, hairy or not above, densely hairy below, veins prominently parallel; in various types of woodland, in savanna, rocky hillsides, and grassland. Three varieties of subsp. *reticulata* are recognized, but the identity of the Nyika material is unknown.

Source. *Flora zambesiaca* 2(2): 576 (1966).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Nyika National Park, without locality or collecting details (Patel 1999).

Rhus anchietae Ficalho & Hiern ex Hiern

Dense shrub or small tree to 8 m tall; leaves 3-foliolate, leaflets rhombic to elliptic, discolorous, hairy or not, veins prominent below; in riverine forest, swamps and savannas. Malawi to Zambia, Angola, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 2(2): 612 (1966).

Malawi. Nyika National Park, without precise locality, 1960, *Chapman 771* (COL, SRGH).

Rhus longipes Engl. var. *longipes* ✧

large-leaved *rhys*; *Chichewa*: kamwamadzi, mdima; *Yao*: mpilakuru, mtatu

Shrub or small tree to 8 m, or scandent, leaves 3-foliolate, leaflets elliptic or obovate, hairy when young, hairless with age, veins obscure above when young, but prominent below when older; in forests, thickets and woodlands. Zimbabwe to W. Africa and Kenya.

Source. Brummitt (1973).

Malawi. Nyika National Park, head of Mondwe Valley, 1972, *Brummitt & Sygne 237* (K, MAL, SRGH, LISC); Mbuzinandi, 2000, *Mwanyambo 584* (MAL); Sangule Peak, 2000, *Izidine 95* (LMA).

Zambia. Nyika Plateau, on path to N. Rukuru Waterfall, 1958, *Robson 393A* (K, LISC).

Rhus ochracea Meikle var. *ochracea*

Rhus squalida sensu White (1962), non Meikle

Suffrutex or shrub to 2 m, from a large woody rootstock, leaves 3-foliolate, leaflets elliptic to obovate, leathery, sparsely to densely hairy on both sides, discolorous, yellowish green to russet below; fruit small, to 4 mm in diameter, round, shiny; in miombo woodland, in grasslands among rocks, on termite mounds. Zambia, Malawi, and Tanzania. This is the first record for the Nyika Plateau.

Malawi. Nyika National Park, Jalawe Viewpoint, 2000, *Thera 3084* (MAL).

Rhus pyroides Burch. var. *pyroides*

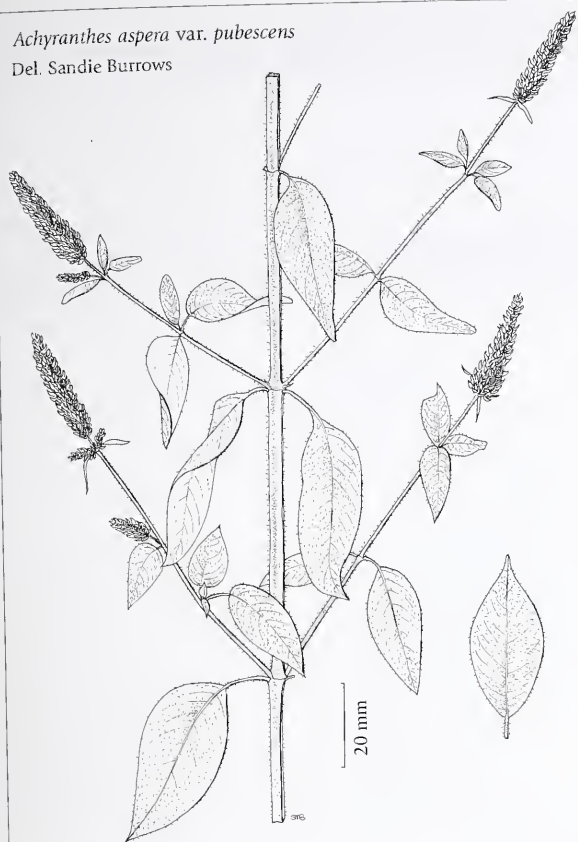
Rhus vulgaris Meikle

Shrub or tree to 9 m tall, leaves 3-foliolate, leaflets ovate to obovate, apex rounded or obtuse, base tapering, lateral and tertiary nerves sunken above, prominently raised below, dark green above, paler and silvery hairy below; fruit red or brownish red, round, ca 5 mm diameter; on termite mounds and rocky hills, along stream banks, and on forest margins. South Africa to Ethiopia.

Source. *Flora zambesiaca* 2(2): 604 (1966); Moffett (1993: 43).

Malawi. Nyika Plateau, N. of Mpanda Summit, *Lewis 104* (FHO); North Rukuru Valley, 2000, *Winter 4121* (MAL).

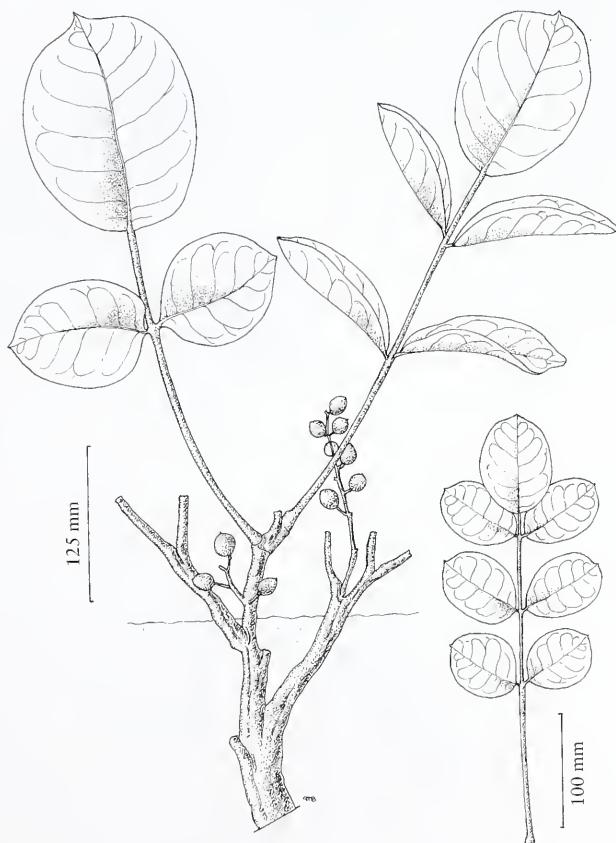
Achyranthes aspera var. *pubescens*
Del. Sandie Burrows



Amaranthus hybridus subsp. *cruentus*
Del. Sandie Burrows



Cyathula cylindrica
Del. Sandie Burrows

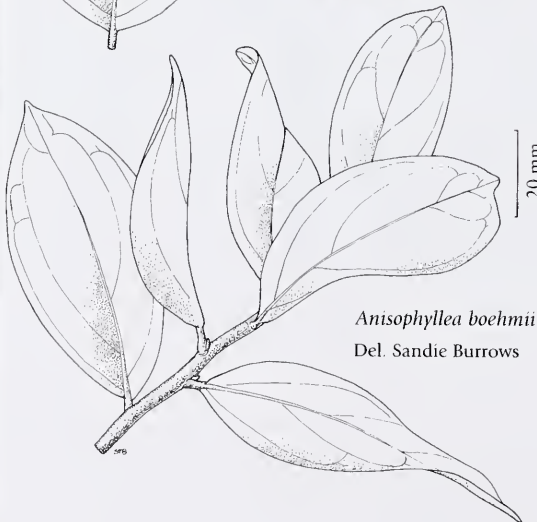
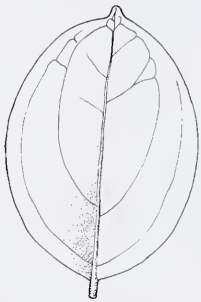


Lananea edulis
Del. Sandie Burrows

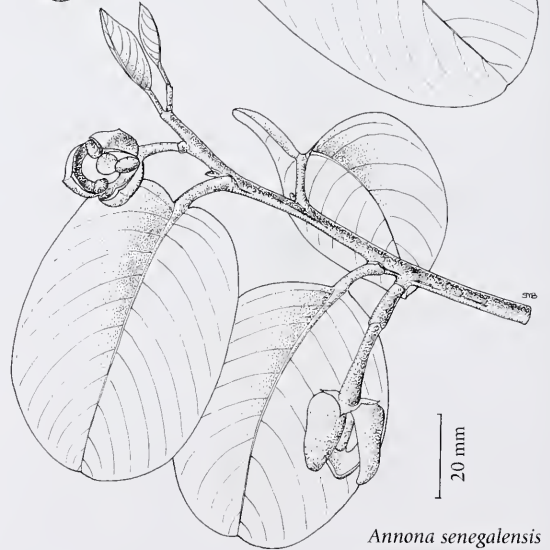
Ozoroa insignis subsp. *reticulata*
Del. Sandie Burrows



Rhus longipes var. *longipes*
Del. Sandie Burrows



Anisophyllea boehmii
Del. Sandie Burrows



Annona senegalensis
Del. Sandie Burrows

Anisophyllea boehmii Engl. ❖

Anisophyllea pomifera Engl. & Brehmer

Tumbuka: m̄angondo; *Tonga*: mfungo; *Ngoni*: mahota

Small evergreen tree to 10 m, young branchlets crimson, leaves simple, ovate to broadly elliptic, leathery dark green, midrib yellowish; flowers small on long slender spikes; fruit a round to ellipsoid drupe, ca 35 x 20 mm,

plum-coloured, edible; in miombo woodland on sandy or rocky soils; 600–1,600 m. Malawi, Zambia, Tanzania, and D.R.C. Fruit much relished; the roots are used in Zambia as a snakebite remedy.

Source. *Flora zambesiaca* 4: 97 (1978); Lebrun & Stork (1991: 167).

Malawi. Nyika National Park, Thazima Gate, 2000, *Burrows & Maroyi* 6837 (MAL, PRE).

ANNONACEAE

Annona senegalensis Pers. ❖

wild custard-apple; *Chichewa*: mpoza, mneche, ulembe; *Tumbuka*:

mdopa, munyele, mulolo; *Yao*: chiuta, mponjela, mposa

Small, often spreading tree 1.5–8 m tall; leaves alternate, 60–185 x 30–115 mm, venation sunken above, prominent below; fruit single, 15–30 mm long, segmented, yellowish, edible; in various types of woodland or wooded grassland; 0–1,900 m. Widespread throughout tropical Africa.

Malawi. Nyika National Park, without locality or collector (Mill 1979).

Artabotrys monteiroae Oliv. ❖

red hook-berry; *Chichewa*: kana; *Yao*: mtandaumbiri, ntandandumbili

Shrub or liane 1.2–6 m tall, bearing small hooks on the branches; leaves alternate, oblong to ovate, 30–140 mm long, glossy, hairless above, finely hairy below; fruit in few-fruited clusters, small, red when ripe; in evergreen forest, riverine forest, woodland, and rocky outcrops; up to 2,200 m. South Africa to Uganda and D.R.C.

Malawi. Nyika National Park, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 319).

Zambia. Nyika Plateau, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 319).

Artabotrys stolzii Diels

Yao: chisakalawe

Large woody climber to 15 m tall, very similar to *A. monteiroae*; in mist forest and evergreen forest: 1,500–2,100 m. Confined to the Nyika in Malawi and S. Tanzania. Regarded as a synonym of *A. monteiroae* by White *et al.* (2001).

Source. *Flora zambesiaca* 1(1): 133 (1960).

Malawi. Nyika National Park, without precise locality, 1955, *Lees* 66 (K).

Friesodielsia obovata (Benth.) Verdc. ❖

Popowia obovata (Benth.) Engl. & Diels

northern dwaba-berry; *Chichewa*: mchinga, kombe, mufulafula (fruits);

Yao: makatama, mkotamu

Shrub to small tree 1–5 m tall; leaves alternate, oblong-obovate, 60–140 x 35–95 mm, finely hairy or hairless, often glaucous below; fruit a cluster of 3–6 carpels, each 1- to 4-seeded, pinkish to orange-yellow; in open woodland, thickets, and along rivers, often on granitic soils. Mainly a species of the *Flora zambesiaca* region.

Source. *Flora zambesiaca* 1(1): 123 (1960).

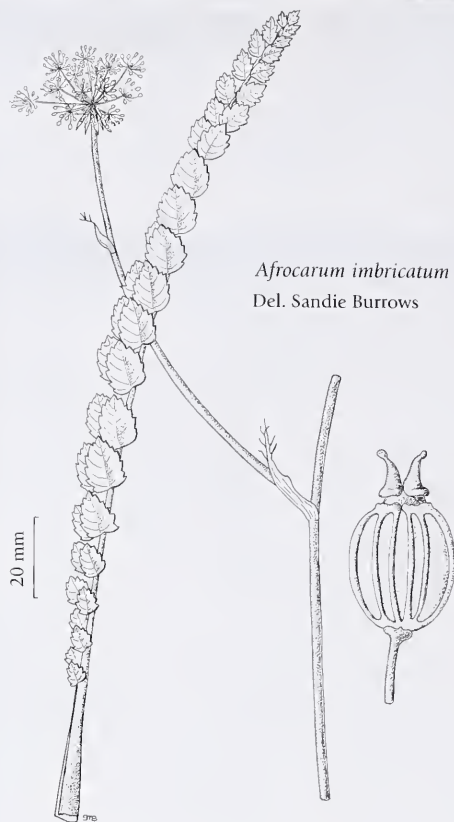
Malawi. Nyika Plateau, Mwenembwe, 1903, *McClounie* 148 (K).



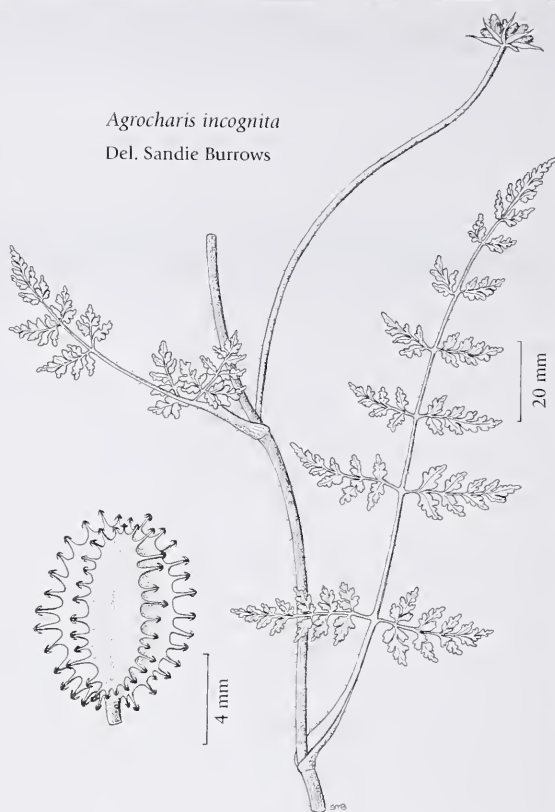
Artabotrys monteiroae
Del. Sandie Burrows



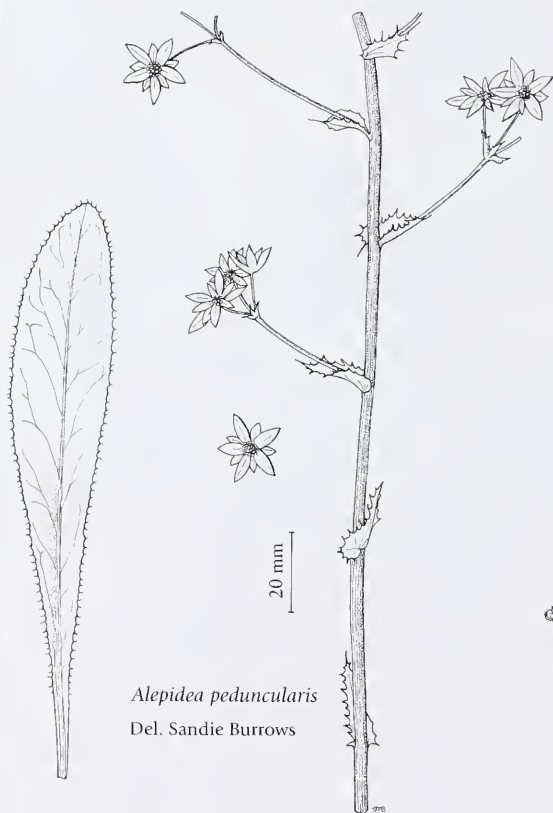
Friesodielsia obovata
Del. Pat Halliday



Afrocarum imbricatum
Del. Sandie Burrows



Agrocharis incognita
Del. Sandie Burrows



Alepidea peduncularis
Del. Sandie Burrows



Centella asiatica
Del. Sandie Burrows

Afrocarum imbricatum (Schinz) Rauschert ❖

Baumiella imbricata (Schinz) H.Wolff.; *Carum imbricatum* Schinz
Herb to 1 m high; leaves glabrous, pinnate, leaflets in 16–32(40) pairs, overlapping, sharply toothed; bracts commonly trisect or pinnate above; flowers cream-coloured; in wetlands, grassland, and woodland. Zimbabwe to Angola, C.A.R., and Tanzania. A monotypic genus endemic to highlands of the central African plateau. African relatives include *Berula*, *Oenanthe*, and *Sium*.

Source. Brummitt (1973).

Malawi. Nyika Plateau, road to Chelinda, *Richards 10507* (K); W. foot of Nganda, 1972, *Brummitt, Munthali & Sygne 37* (K, MAL, SRGH, EA); Dembo River, 2000, *Winter 4034* (MAL, SRGH, LMA, PRE, UZL).

Agrocharis incognita (Norman) Heyw. & Jury ❖

Caucalis incognita Norman; *Torilis eninii* Engl.; *Torilis gracilis* Engl. forma *umbrosa* Engl.

Annual herbs (or short-lived perennial with a slender rootstock) set with bristly, tubercle-based hairs; leaves 2(–3)-pinnate, pinnae with broadly oblong-elliptic segments, more rarely (when tripinnate) the segments narrowly elliptic; umbels compound, involucre present beneath main umbel, petals greenish to white or creamy white; fruit with glochidiate spines, secondary ribs spinose, primary ribs pilose; in montane grassland, forest margins and clearings, or in deep shade in damp places, and as a weed of agriculture, 900–3,000 m. Tropical eastern Africa to Sudan, D.R.C., Malawi, E. Zimbabwe, and adjacent Mozambique. The relationship between *Agrocharis* and *Daucus* is being investigated.

Source. Paté (1999).

Malawi. Nyika National Park, margin of Zovochipolo Forest, 2000, *Winter 4131* (MAL).

Agrocharis melanantha Hochst.

Agrocharis pedunculata (Baker f.) Heyw. & Jury; *Caucalis melanantha* (Hochst.) Hiern; *Caucalis longisepala* H.Wolff; *Caucaliopsis stolzii* H.Wolff.; *Gynophyge tansaniensis* Gilli

Perennial pyrophytic herb with a thickened rootstock, 100 mm tall, set with bristly, tubercle-based hairs; leaves 3- to 4-pinnate into linear to linear-oblong segments, often subverticillate in appearance; umbels compound, with distinct and often long rays; involucre present beneath main umbel, petals greenish to yellowish or blackish purple; fruit with glochidiate spines, secondary ribs spinose, primary ribs pilose; in moist, short, montane grassland subject to frequent burning. Widespread in eastern Africa.

Source. Brummitt (1973); Paté (1999).

Malawi. Nyika National Park, between Nganda and Muzengapakweru, 1972, *Sygne 359* (K, MAL, SRGH, EA); road to Chelinda bridge, near Chosi Hill turnoff, 2000, *Winter 4052* (MAL, PRE); Nganda Hill crest, 2000, *Winter 4077* (MAL, SRGH, PRE).

Alepidea peduncularis A.Rich. ❖

Alepidea gracilis Dümmer; *Alepidea longifolia* E.Mey. ex Dümmer; *Alepidea propinqua* Dümmer; *Alepidea swynnertonii* Dümmer

Slender to robust herb to 1.2 m tall with a basal rosette of leaves; basal leaf margins barely to conspicuously ciliate; flowers in a large panicle of condensed simple umbels, involucre bracts prominent, white; in montane grassland and open miombo woodland. South Africa to Ethiopia. The huge variation in this aggregate species is not well understood and suspiciously simplified.

Source. Cannon (1978); Townsend (1989); Lebrun & Stork (1992).

Malawi. Nyika National Park, between Lake Kaulime and Zovochipolo Forest, 2000, *Winter 4002* (MAL, SRGH, PRE); Nganda Hill, near crest, 2000, *Winter 4080* (MAL, SRGH, PRE, UZL); 2 km upstream of Wowwe River Gorge, 2000, *Winter 4150* (MAL, PRE); Chisanga Falls footpath, 2000, *Burrows & Burrows 6752* (MAL, PRE).

Zambia. Nyika Plateau, N. of Zambian Rest House, ca 1 km E. of Sonkwe stream, 2000, *Winter 4019* (UZL, PRE).

Centella asiatica (L.) Urb. ❖

Centella bupleurifolia (A.Rich.) Adamson; *Centella coriacea* Nannf.

Low creeping perennial herb, stems rooting at nodes; leaves reniform; margins regularly crenate all round; umbels simple, axillary, petals greenish to purplish red; fruit strongly laterally compressed; often in moist places, grassland along rivers, among rocks, forest clearings. Pantropical, extending into some subtropical regions.

Malawi. Nyika National Park, without locality or collecting (Paté 1999).

***Cyclospermum leptophyllum** (Pers.) Sprague ❖

Apium leptophyllum (Pers.) Benth.

Weak, glabrous annual herb; leaves tripinnate into filiform segments; petals minute, white; fruit almost round, laterally compressed, 1.25–1.75 mm long, with strongly protuberant, broad, pale primary ribs; a weed of cultivated and disturbed ground, sometimes in damp places, occasionally even in very shallow water. Probably Central American in origin, now widespread as a weed in the tropical regions of the world.

Malawi. Nyika National Park, without locality or collecting details (Paté 1999).

Diplophium buchananii (Benth. ex Oliv.) Norman ❖

Physotrichia buchananii Benth. ex Oliv.

A very robust perennial herb 1–2 m high, often glaucous, sometimes subshrubby; leaf sheaths well-developed, leaf segments elliptic to subrotund; involucre and involucel very conspicuous, petals greenish white to creamy yellow; fruit strongly dorsally compressed, densely bristly pubescent; in moist places in rocky montane grassland and in *Brachystegia* woodland. Malawi and N. Mozambique.

Malawi. Nyika National Park, without locality or collecting details (Paté 1999).

Frommia ceratophylloides H.Wolff ❖

Perennial herb to 1 m tall; basal leaves forming a rosette above a scaly or fibrous collar formed by the decaying sheaths of previous years' leaves; leaves pinnate, long and slender with each pinna very finely divided into very thin segments; flowers in much-branched inflorescences, petals yellow; fruit ovoid, 2–3 mm long, smooth and black, similar to that of *Pimpinella*; in thin soils associated with rock outcrops in grassland. A monotypic genus endemic to N.E. Zambia, N. Malawi, and S.W. Tanzania.

Source. Mill (1979).

Malawi. Nyika Plateau, *Robinson 4499* (K, SRGH); Chelinda Bridge rock outcrop, 2000, *Winter 4054* (MAL, SRGH, PRE).

Zambia. Malawi border, *Richards 14398* (K); ca 3 km N. of Zambian Rest House, 2000, *Koekemoer s.n. sub Winter 4017* (MAL, SRGH, PRE, UZL).

Heracleum abyssinicum (Boiss.) Norman ❖

Malabaila kirungae Engl.; *Malabaila abyssinica* Boiss.; *Malabaila rivae* Engl.

Perennial or biennial herb to 1 m tall, stems solid, terete or ridged, often purplish at base, from woody or somewhat fleshy rootstock; leaves simply pinnate, to 300 x 70 mm; leaflets ovate, coarsely dentate; flowers white, in a compound umbel; fruits dorsally compressed and winged; along streambanks in grassland, 2,000–2,400 m. Widespread in eastern Africa from Ethiopia to Malawi.

Source. Mill (1979).

Malawi. Nyika National Park, Chelinda Bridge, wetland below forest, 2000, *Winter 4056* (MAL).

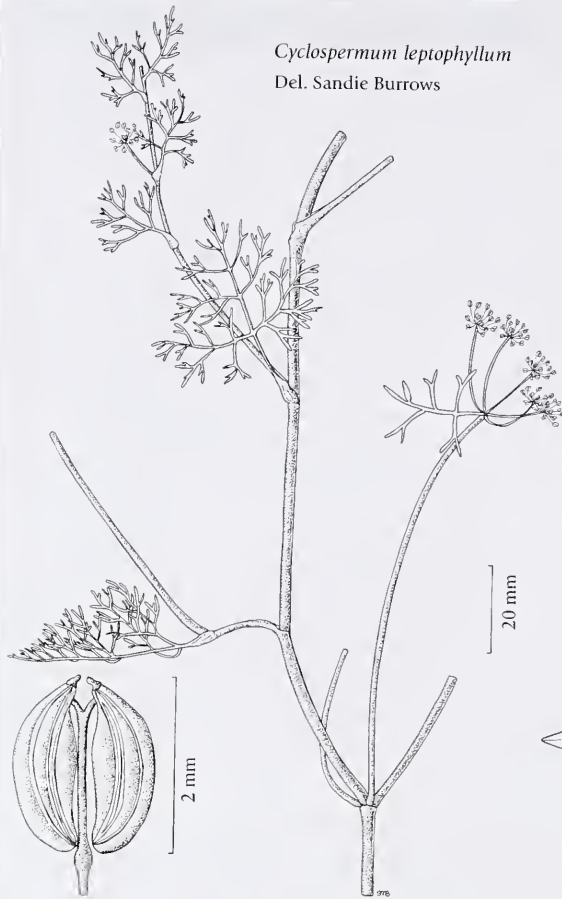
Heteromorpha arborescens (Spreng.) Cham. & Schldtl. var. **abyssinica** (A.Rich.) H.Wolff ❖

Heteromorpha abyssinica Hochst. ex A.Rich.; *Heteromorpha trifoliata* (Wendl.) Eckl. & Zeyh.

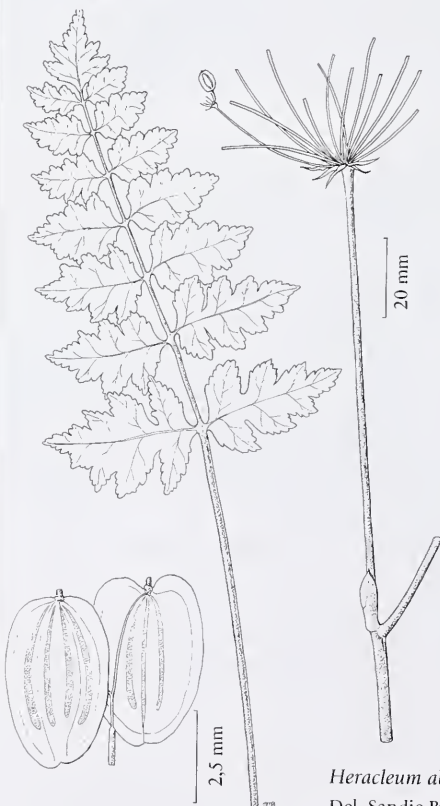
Chicbewa: kapoloni, khozyo thengo

Small tree 4(–12) m tall, bark peeling (birch-like) in transverse bands to expose smooth, bronze underbark between consecutive persistent encircling leaf scars; leaves shortly and softly pilose usually only on midrib above; umbel rays ca 25 mm long, flowers greenish yellow; fruit halves hetero-

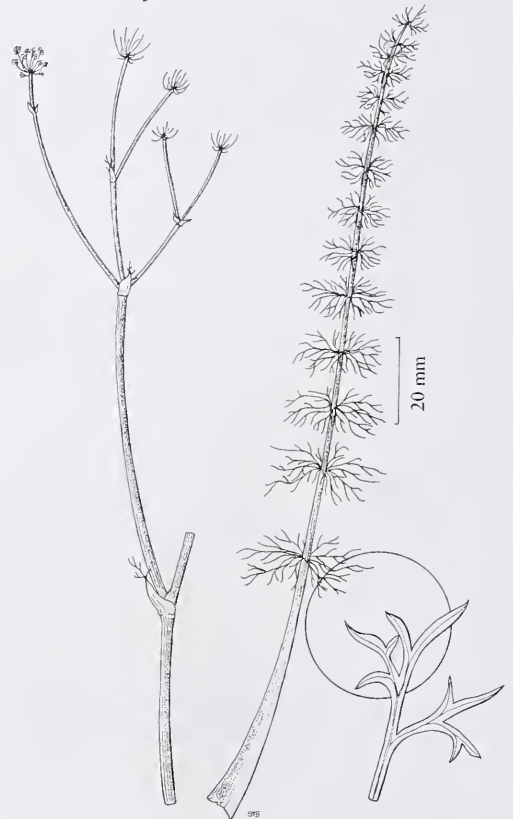
Cyclospermum leptophyllum
Del. Sandie Burrows



Diploleptophium buchananii
Del. Sandie Burrows



Heracleum abyssinicum
Del. Sandie Burrows



Frommia ceratophylloides
Del. Sandie Burrows

morphic, one with four ribs (two conspicuous) and the other with five (three conspicuous); in montane and riverine woodland, forest margins, and in secondary growth. South Africa (Cape) to Ethiopia and Yemen; also in Angola.

Source. Brummitt (1973); Winter & Van Wyk (1996).

Malawi. Nyika Plateau, without locality, 1946, *Brass 17342* (BM, K, PRE, SRGH); 3 km W. of Muzengapakweru, 1972, *Synge 379* (K); W. of Vithintha Hill, 2000, *Salubeni & Mwanyambo 6750* (MAL); Jalawe Viewpoint, 2000, *Thera 3081* (MAL); Juniper Forest, 2000, *Burrows & Burrows 6924* (MAL, PRE, UNIN).

Zambia. Nyika Plateau, Chowo Forest, *Phillips 1720* (MO); ca 3 km N. of Zambia Rest House, 2000, *Winter 4016* (PRE, UZL).

Heteromorpha involucrata Conrath

Suffrutescent or woody shrub to 1.8 m tall; leaves short-petiolate and trifoliate, with broad-based hairs predominantly on nerves below; terminal umbel often much larger than later umbels, rays up to 100 mm; petals cream-coloured to greenish yellow; in montane grassland, also open miombo or *Protea* woodland, particularly toward the plateau margins, 1,800–2,600 m. S. Tanzania to northern South Africa.

Malawi. Nyika National Park, near Thazima Gate, 2000, *Burrows sub Winter 4051* (MAL, SRGH, PRE, UZL); Vithintha Hill slope, 2000, *Salubeni & Mwanyambo 6811* (MAL); Lake Kaulime, 2000, *Willis & Luhanga 106* (MAL).

Zambia. Nyika Plateau, N. of Zambia Rest House, ca 1 km E. of Sonkwe stream, 2000, *Winter 4018* (MAL, SRGH, PRE, UZL, LMA, UNIN, DSM).

Heteromorpha kassneri H. Wolff

Suffrutescent or woody shrub similar to *H. involucrata*, to 1.8 m tall; leaves subsessile with pinnatifid or decurrent pinnae; in open miombo woodland, 1,400–1,800 m. D.R.C., Zambia, and Malawi.

Malawi. Mpora, 2 miles E. of Nyika, *Phillips 1295* (MO); 10 km S. of Thazima Gate, 2000, *Winter 4242* (MAL, UZL).

Hydrocotyle mannii Hook.f. ✧

Low creeping perennial herb, stems rooting at nodes; leaves reniform or almost round with 5–9 rounded to acute denticulate lobes, pilose on both surfaces; umbels simple, axillary, rounded capitate, petals greenish to white; fruit strongly laterally compressed; among grass in wet to somewhat damp situations at edges of lakes, swamps, and marshes, as well as disturbed places. Widespread in tropical Africa. *H. sibthorpioides* Lam. is expected to occur here, and the two species may have been confused previously.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Lefebvreia abyssinica A. Rich. ✧

Lefebvreia stuhlmannii Engl.; *Peucedanum lefebvreia* Drude

Slender virgate perennial herb to 3 m tall, characteristically overtopping surrounding vegetation; stems frequently bowed over with the weight of the fruiting umbels; leaves mostly confined to near base of stem, 2-pinnate (ternate-pinnate) with linear leaflets, leaflets with two veins parallel to the midvein; flowers pale yellowish cream, on long, thin, drooping pedicels; fruit strongly dorsally compressed as in *Peucedanum*, but deeply incised at apex with rounded, curved auricles overtopping the elongated, narrowly conical stylopodium; in montane grassland and open savanna woodland; 1,000–2,300 m. Zimbabwe to tropical eastern Africa, D.R.C., and Angola.

Source. Mill (1979).

Malawi. Nyika National Park, Wovwe River Valley, 2000, *Willis 168* (MAL).

Zambia. Nyika National Park, N. of Zambia Rest House, ca 1 km E. of Sonkwe stream, 2000, *Winter 4020* (MAL).

Lefebvreia grantii (Hiern) Droop

Lefebvreia microcarpa H. Wolff; *Lefebvreia angolensis* Welw. ex Ficalho;

Lefebvreia welwitschii Engl.; *Peucedanum buchananii* Baker

Robust biennial (? sometimes perennial) herb, glabrous, 0.6–2(3) m tall; leaflets with two veins parallel to the midvein in narrow-leaved forms, but these veins not noticeably parallel in broader-leaved forms; petals greenish yellow or cream; fruit strongly dorsally compressed as in *Peucedanum*, but deeply incised at apex with rounded, curved auricles overtopping the

stylopodium; stylopodium not or only slightly longer than wide; fruits up to 12 mm long. Widespread in tropical Africa. It may be worth considering *Lefebvreia microcarpa* as a subspecies of *L. grantii*. It is identical in all respects, but with smaller fruit up to 8 mm long, leaflets very narrowly ovate to linear and a diffuse inflorescence, and seems to occupy a drier and warmer habitat at lower altitudes (1,250–1,750 m) in Zambia, Malawi, and southern Tanzania.

Source. Cannon (1978); Patel (1999).

Malawi. Nyika Plateau, 1896, *Whyte* s.n. (B, holo.t; BM, photo).

Peucedanum articulatum C.C. Towns. ✧

Perennial herb 0.5–0.65 m tall; leaves with hollow petioles and pronounced sheaths, ultimate leaf divisions filiform to narrowly linear; flowers white; fruit dorsally compressed with lateral wings, stylopodium exceeding the wings; in moist grassland, presumably temporarily waterlogged. Endemic to the Nyika Plateau.

Source. Townsend (1987).

Malawi. Nyika National Park, Chosi Hill, 2000, *Winter 3988* (MAL, SRGH, PRE, UZL, LMA); 2000, *Kasakula 199* (MAL, LMA, SRGH); 8 km E. of Chelinda on Kasaramba Road, 2,303 m, *Pawek 11203* (K, holo.; UC, MO, SRGH, MAL, PRE, iso.); above Chelinda Bridge, 2,409 m, *Droop 308* (K, RNG).

Zambia. Nyika Plateau, Chowo Rock, ca 2,195 m, *Droop 314* (K, RNG).

Peucedanum claessensii Norman

Erect coarse perennial herb 1–3.5 m tall, stem terete, hollow, to 18 mm wide at the base; leaves large, up to 0.45–1 m x 0.3–0.75 m; leaves divided into broad segments, 23–90 x 17–80 mm, margins scabrid with short hairs; flowers white or creamy, suffused with a green centre; fruit with 2 vittae on the commissural face; in montane grassland, forest margins, and other scrub associations, 1,070–2,300 m. S. Tanzania, D.R.C., E. Zambia, E. Zimbabwe, Malawi, and Mozambique.

Source. Cannon (1978); Patel (1999).

Zambia. Nyika Plateau, *Richards 10402* (K, SRGH); N. of Zambia Rest House, ca 1 km E. of Sonkwe stream, 2000, *Winter 4021* (MAL, PRE).

Peucedanum eylesii Norman

Erect perennial herb with stout, gnarled, woody rootstock, 0.9–2 m tall, stems pithy, angular, and sulcate-striate; lower leaves 190–700 x 80–180 mm, lower leaf segments broadly linear to narrowly oblong, upper leaves with the leaflets (especially the terminal) long and narrow, regularly sharply serrate, somewhat scabrid on midrib below, margins glabrous; flowering petals yellow to yellow-green; fruit dorsally compressed with lateral wings, obovate, shallowly truncate or notched at the base, the 2(–3) vittae on the commissural face superficial, stylopodium exceeding wings; in damp or seasonally flooded grassland or scrub near streams, 1,500–1,700 m. S. and W. Tanzania, Zambia, Zimbabwe, Malawi, and Mozambique. Can be confused with *P. nyassicum*, as well as *Lefebvreia longipedicellata*.

Source. Mill (1979).

Malawi. Nyika National Park, Thazima Gate, 2000, *Burrows sub Winter 4050* (MAL, UZL, PRE); ca 2 km N.W. of Lake Kaulime, 2000, *Winter 4128* (MAL).

Zambia. Nyika Rest House, *Richards 10402* (K).

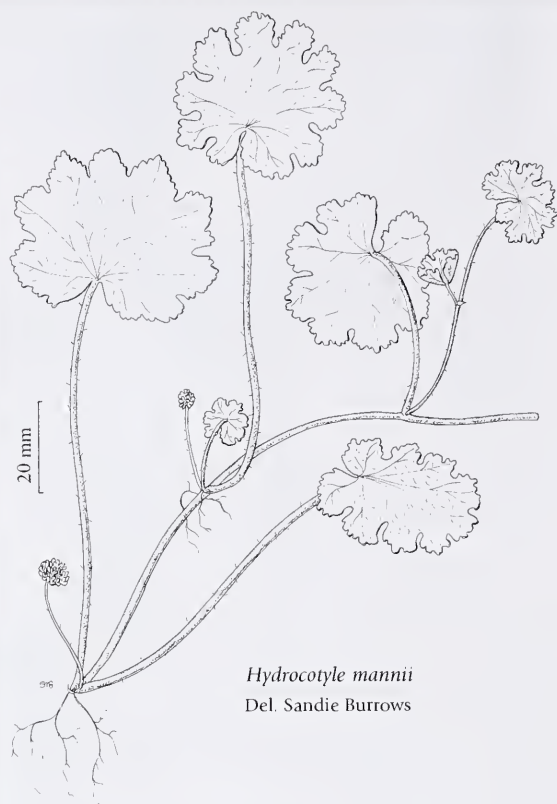
Peucedanum linderi Norman

Peucedanum aberdaricum Chiov.

Erect perennial herb similar to *P. eylesii*, 0.9–3 m tall, stem fistular, angular, and sulcate-striate; 8–19 mm wide at base; leaves divided into broad segments, 12–50 x 7–25 mm, leaflet margins serrate, glabrous; flowers white or creamy with a narrow greenish or brownish central streak along the single vitta; fruit broadly elliptical to round, deeply incised at the base, the 2 vittae on the commissural face somewhat concealed by overlying tissue; in montane forest margins or clearings, tall grassland, scrub, along streams, and in boggy places, 1,860–3,422 m. Mountains of tropical eastern Africa, Rwanda, D.R.C., Malawi, Mozambique, and E. Zimbabwe.

Source. Cannon (1978); Mill (1979).

Malawi. Nyika National Park, 5 km S. of Chelinda, *De Kruif 1325* (PRE); Mpopoti Hill, 2000, *Salubeni & Mwanyambo 6788* (MAL); Mwanda, between road and ridge, 2000, *Winter 4178* (MAL).



Hydrocotyle mannii
Del. Sandie Burrows



Heteromorpha arborescens
Del. Victoria Goaman



Lefeburea abyssinica
Del. Sandie Burrows



Peucedanum articulatum
Del. Sandie Burrows

Peucedanum sp. nov., aff. **P. harmsianum** H. Wolff

Glabrous, perennial herb 0.3–0.7 m tall, from rhizomatous rootstock; leaves less than five-jugate, segments 1–4(6) mm wide; flowering petals yellow, at least when dry, anthers yellow; fruit elliptic or slightly obovate, ca 7–9 × 3–5 mm, solitary vittae in valliculae, and two vittae on commissure distinguish this from *P. harmsianum*; in wetlands along streams in montane grassland, ca 2,300 m. Known only from the Nyika Plateau.

Malawi. Nyika National Park, Dembo Bridge area, 2000, *Winter 4049* (MAL, SRGH, PRE, UZL); Chelinda Stream, 7,500', *Pawek 7829* (UC, SRGH, PRE), wetland along stream, *Pawek 10295* (UC, SRGH, PRE, K, MO, MAL).

Physotrichia heracleoides H. Wolff ✧

Perennial with a tough taproot, ca 0.3–0.9 m tall; lobes of lower leaves not separated into pinnae or, if so, then the pinnae not decurrent along the leaf-rachis; involucre and involucre very conspicuous, petals creamy-or greenish yellow, calyx teeth well-defined, ovary and young fruit not visibly ribbed, terete; fruit strongly dorsally compressed, with vesicular papillae; in rough, rather dry grassland, 1,500–2,100 m. From Burundi, S.W. Tanzania, and southern D.R.C. to Zambia and the Nyika Plateau.

Source. Mill (1979).

Malawi. Nyika National Park, ca 3 km N.W. of Lake Kaulime, 2000, *Winter 4123* (MAL); upstream of Wovwe Gorge, 2000, *Winter 4149* (MAL).

Physotrichia muriculata (Hiern) Droop & C.C. Towns.

Peucedanum heracleoides Baker [Type: Nyika Plateau, Whyte 224 (K)]. Perennial herb 0.5–1.5 m tall, with a woody or fleshy taproot, stems ribbed or grooved, muriculate; leaves pinnatisect, with the pinnae broadly decurrent along the leaf-rachis, roughly hairy, to 250 × 180 mm; umbels compound, to 100 mm across; involucre and involucre very conspicuous, flowers yellowish, sometimes flushed purplish, calyx teeth well-defined; ovary and young fruit deeply flushed and ribbed; fruit strongly dorsally compressed, with a papillate-muriculate surface; in montane grassland or wooded grassland up to 2,100 m. From Angola, through northern Zambia and southern D.R.C., to the Nyika Plateau and S. and W. Tanzania.

Source. Cannon (1978).

Malawi. Nyika Plateau, below Rest House, *Boughey 1630* (K, SRGH); Domwe Viewpoint, 2000, *Salubeni & Mwanyambo 6799* (MAL); Mbusinandi, 2000, *Salubeni & Mwanyambo 6816* (MAL); Chisanga Falls footpath, 2000, *Winter 4012* (MAL, PRE, SRGH, UZL, LMA).

Pimpinella buchananii H. Wolff subsp. **buchananii** var. **buchananii**

Pimpinella stolzii H. Wolff; *Pimpinella buchananii* var. *triradiata* Norman; *Pimpinella zeyrii* Gilli

Slender to robust biennial to perennial herb, 0.35–1.5 m high; leaves variably pinnate, only rarely simple or trilobed; inflorescence much branched and rebranched, umbel rays (2)4–8(12); involucre and involucels absent, rarely a single bract present, petals white to creamy, univittate, stylopodia long-conical; in rocky grassland, miombo woodland. Angola, D.R.C., Zambia, Tanzania, Malawi, and Mozambique. The altitudinal limit of 1,880 m, reported in *E.T.E.A.* is extended to over 2,300 m by Nyika gatherings. At these altitudes, plants are restricted to rocky habitats, and resemble *P. mulanjensis* C.C. Towns., except for the lack of trivittate petals. An extremely variable species with an immense range in habit and leaf morphology, even within individual populations. Some of these collections appear to have an annual habit, but vary in the presence or absence of a tuberous taproot.

Source. Mill (1979).

Malawi. Nyika National Park, Chosi Hill, W. of summit, 2000, *Winter 3990* (MAL, SRGH, PRE, UZL); Fingira Rock, 2000, *Willis & Luhanga 246* (MAL); Mwanda, E. of ridge base, 2000, *Winter 4177* (MAL, SRGH, PRE, LMA).

Pimpinella caffra (Eckl. & Zeyh.) D. Dietr. subsp. **conopodioides** C.C. Towns.

Pimpinella stadensis sensu Cannon, non (Eckl. & Zeyh.) D. Dietr., pro parte, excl. *Pimpinella nyassica* Norman

Biennial or perhaps perennial herb, 0.22–0.85 m tall from a short and oblong to tapering, firm, tuber-like root; basal leaves deeply palmately divided into narrow segments which are pinnate or toothed; stem leaves sim-

ply pinnate or bipinnate with very narrow segments not exceeding 2 mm wide and generally less; inflorescence simple or with few branches; umbels of 4–12(15) rays; petals white; fruit glabrous; stylopodial disk broad, concave, the stylopodia scarcely projecting; on mountain slopes and summits in grassland, among rocks, and on rocky outcrops and walls of gullies, 2,310–2,760 m. Endemic to Nyika Plateau and S.W. Tanzania.

Source. Patel (1999).

Malawi. Nyika National Park, Nganda Hill, W.N.W. slope, 2,500 m, 2000, *Winter 4065* (MAL, PRE); S. side of beacon, 2,600 m, 2000, *Winter 4072* (MAL, SRGH, PRE, LMA).

Pimpinella duridentata C.C. Towns.

Pyrophytic herbaceous perennial 0.4–0.65 m tall, with fibrous remains of petioles at base of stem; leaves coriaceous, simply pinnate with 2–4 pairs of sessile, very narrowly ovate pinnae, with firm cartilaginous-tipped teeth, lower lateral pinnae of at least the stem leaves deflexed; inflorescence moderately branched, umbel rays and pedicels glabrous, petals yellow; in grassland and damp, swampy ground, 2,250–2,600(2,800) m. Endemic to Tanzania (Southern Highlands) and the Nyika Plateau. Cannon's (1978) note that '*Pawek 2081* (UC) compares fairly well' with the type of *P. favifolia* Norman from Lake Mweru seems to have been missed by Townsend (1985, 1989), and this may yet prove to be the correct name for this species, in which case its range will extend to D.R.C.

Source. Townsend (1985, 1989).

Malawi. Nyika National Park, Chosi Hill, 2000, *Winter 3992* (MAL, SRGH, PRE, UZL, LMA, DSM); Nganda Peak, *Pawek 2081* (K, holo.).

Pimpinella huillensis Engl.

Pimpinella welwitschii Engl.; *Pimpinella mechowii* (Engl.) H. Wolff; *Pimpinella platyphylla* Hiern; *Pimpinella gossweilerii* H. Wolff; *Pimpinella robusta* Norman; *Pimpinella kassneri* (H. Wolff) Cannon

Slender to robust biennial or perennial herb, 0.6–2 m tall; basal leaves coriaceous, simple (entire) or at most ternate; inflorescence much-branched; bracts (from first flowering branch and upward) with reduced lamina shorter than firm sheath; flowers white to creamy, pedicels glabrous or with a few scattered hairs, involucels absent; fruit with dense silky, bristly or vesicular hairs, not much longer than broad; in *Brachystegia*–*Uapaca* woodland and in shallow boggy soil overlying laterite by streams, up to 1,500 m. Angola, Zambia, Zimbabwe, Malawi, S. and W. Tanzania, and N. Mozambique.

Source. Cannon (1978); Patel (1999).

Malawi. Nyika National Park, Nchenachena, *Pawek 3370* (UC).

Pimpinella ledermannii H. Wolff subsp. **engleriana** (H. Wolff) C.C. Towns. ✧

Pimpinella engleriana H. Wolff; *Pimpinella tomentosa* sensu Engl., non C. B. Clarke; *Pimpinella africana* Hiroe

Biennial or short-lived perennial herb, (0.2)0.5–1.8 m tall; basal leaves coriaceous, entire or at most ternate; inflorescence simple or with few branches, bracts (from first flowering branch and upward) with reduced lamina shorter than firm sheath, flowers white, pedicels with dense, short, spreading hairs, involucels frequently present; fruit densely hairy, conspicuously longer than broad; in open or wooded (*Brachystegia*, *Uapaca*, *Protea*) grassland of plateaux and hill slopes, (810)1,400–1,900(2,400) m. Burundi, D.R.C. (Shaba Province), N. Zambia, S. and W. Tanzania, N. and C. Malawi, and N. Mozambique.

Source. Brummitt (1973).

Malawi. Nyika National Park, N.W. foot of Nganda, 1972, *Synge 379* (K, MAL, SRGH); 8 km N.W. of Lake Kaulime, camp near North Rukuru River, 2,020 m, *Brummitt 10822* (PRE, K).

Pimpinella nyassica Norman

Pimpinella stadensis sensu Cannon, non (Eckl. & Zeyh.) D. Dietr., pro parte

Slender herb 0.2–0.8 m tall, rhizome with thick side roots; leaves long-petiolate, lowermost leaf may be undivided, orbicular and deeply dentate, leaflets with long petiolules; inflorescence simple or with few branches; 2–3 umbels, rays many, petals creamy white; in wetlands along streams in grassland. This species is apparently endemic to wetlands on the Nyika Plateau. Its relationship needs to be clarified with plants from Zimbabwe

Physotrichia heracleoides

Del. Sandie Burrows



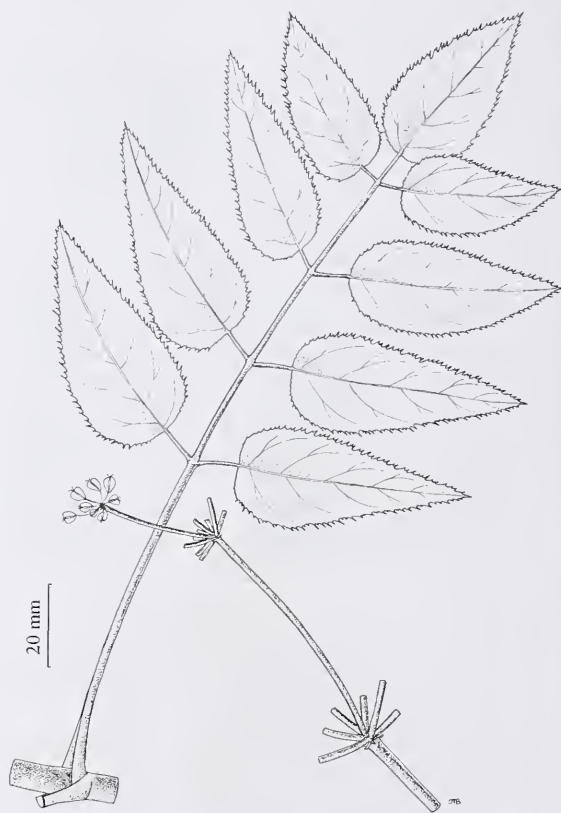
Pimpinella ledermannii

Del. Christine Grey-Wilson



Sanicula elata

Del. Sandie Burrows



Steganotaenia araliacea

Del. Sandie Burrows

to South Africa in the *P. caffra/stadensis* complex that occur in wetland habitats, for example, *P. hydrophila* H. Wolff, particularly concerning the rhizomatous habit and long petioles.

Source. Cannon (1978).

Malawi. Nyika Mountains, 1932, *Sanderson 58* (BM, holo.); Nyika National Park, wetland at Zovochipolo forest margin, 2000, *Winter 4136* (MAL); tributary E. of Dembo Bridge, 2000, *Winter 4041* (MAL, PRE, SRGH).

***Sanicula elata* D. Don ❖**

Sanicula europaea L. var. *elata* (D. Don) Boiss.; *Sanicula europaea* L. var. *partita* (Kuntze) Hiroe

Stoloniferous herb up to 0.8 m; leaves long-stalked, rosetted, palmate, 40–80 mm wide, leaf segments 3–7, margin serrate with a tooth arista or mucro 1 mm long; umbels apparently simple; fruit 3–4 mm long, covered with hooked bristles; in evergreen forest. Widespread in Old World tropics and subtropics.

Source. Brummitt (1973).

Malawi. Nyika National Park, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Sygne 130* (K, MAL, SRGH); Nyika Road, km 56.3, *Chapman 181* (BM).

Zambia. Nyika Plateau, upper slopes of Kangampande (Chowo Rocks), *White 2760* (K).

Excluded species

****Daucus carota* L.**

Daucus abyssinicus auctt. Hochst. ex A. Rich., non C. A. Mey.

carrot

Unlikely, unless as an escape from cultivation in a disturbed situation. May have been confused with *Agrocharis incognita*.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Species that are still expected, but have apparently not yet been collected on the Nyika Plateau

***Heteromorpha arborescens* (Spreng.) Cham. & Schltdl. var. *montana* P. J. D. Winter**

The type locality of this variety is from Vipha (Vernal Pool Dome); also collected at Chikangawa (Vipha) and therefore probably also occurs on the Nyika although no specimens thus determined have been found there to date. Expected on the eastern slopes, in steep, open, precipitous habitats.

Source. Winter & Van Wyk (1996).

***Lefebvrea longipedicellata* Engl.**

Peucedanum longipedicellatum (Engl.) Drude; *Lefebvrea brevipes*

H. Wolff; *Lefebvrea naegeleana* H. Wolff

***Steganotaenia araliacea* Hochst. ❖**

Peucedanum fraxinifolium Oliv.

Chicheva: mporoni; *Timbuka*: mnyongoloka

Tree to 5 m tall, leafless when in flower; leaves imparipinnate with short, semi-amplexicaul basal sheath, margin serrate, tooth arista up to 3 mm long, apex acute to acuminate; umbels spherical, petals yellow; fruit strongly dorsally compressed, obovate, 8–15 × 5–8 mm; in drier woodland types. Widespread in the savannas of tropical Africa.

Source. Brummitt (1973).

Malawi. Nyika National Park, Sawi Valley, 1972, *Syngé 442* (K, MAL).

***Torilis arvensis* (Huds.) Link ❖**

Erect annual herb to 1 m; leaves pinnately divided, hairy; involucre absent beneath main compound umbel, flowers white, petals setose-hairy; fruit with glochidiate spines, both secondary and primary ribs of fruit pilose; at high altitudes from the Cape (South Africa) to Europe and Asia; an introduced weed elsewhere in the world.

Source. Cannon (1978).

Malawi. Nyika Plateau, 1896, *Whyte 158* (K).

***Peucedanum nyassicum* H. Wolff**

The relationship of this sp. to *P. eylesii* is not clear, but Townsend (1989) considered this entity to be more or less confined to Mt. Mulanje, and quite different in its shorter habit (0.3–1.2 m) and leaf dissection.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Distributed from tropical E. Africa to D.R.C., Zambia, Angola, southern Malawi, and N. Mozambique. The gap in the known distribution range seems to reflect missing data or misidentification of Nyika specimens rather than a true disjunction, as the Nyika National Park includes habitats which seem suitable for occupation by this species, and it is recorded from as close as Chisenga (Misuku Hills). It seems as if there may be difficulty distinguishing it from *Peucedanum eylesii* when mature fruit is not available, as both have more or less triplinerved pinnae. The number and length of pedicels may prove useful to distinguish them. Only a thorough comparison of specimens of both taxa can confirm this. If these species can be recognised in the vegetative state, this needs to be reflected in the literature, at least in the form of a diagnosis.

APOCYNACEAE (including Asclepiadaceae and Periplocaceae)

***Acokanthera laevigata* Kupicha ❖**

Shrub or tree to 12 m tall, all parts with milky sap, leaves leathery, flowers in axillary clusters, white; in mid-stratum of montane forest; in *Juniperus* forest, on Nkhonjera Hill, and at Mbuzinandi. N. Malawi and Tanzania.

Source. *Flora zambesiaca* 7(2): 406 (1985); White *et al.* (2001).

Malawi. Nyika National Park, in the Juniper Forest, 2,160 m, 1976, *Pawek 11818* (K).

***Ancylobotrys petersiana* (Klotzsch) Pierre ❖**

Landolphia petersiana (Klotzsch) Dyer

Scandent shrub or woody climber with a milky latex; leaves opposite, 40–110 mm long; flowers white or cream-white, corolla tube 6–14 mm long, lobes 11–24 mm long; on rocky hillsides in mixed woodland at low altitudes. South Africa to Tanzania and Kenya; also on Madagascar. Probably not a constituent of the Plateau flora.

Malawi. Nyika National Park, Kasewerera, 2001, without collecting details (Patel & Overton 2002).

***Asclepias amabilis* N. E. Br.**

Gomphocarpus amabilis (N. E. Br.) Bullock

Slender erect single-stemmed tuberous herb with white latex; flowers in few-flowered umbels; in damp peaty soil in montane grassland; 2,250 m. Malawi, Zambia, and Tanzania.

Malawi. Nyika Plateau, Lake Kaulime, 2,250 m, 1959, *Richards 10459* (K).

***Asclepias pygmaea* N. E. Br.**

Trachycalychna cucullatum sensu Bullock, in part

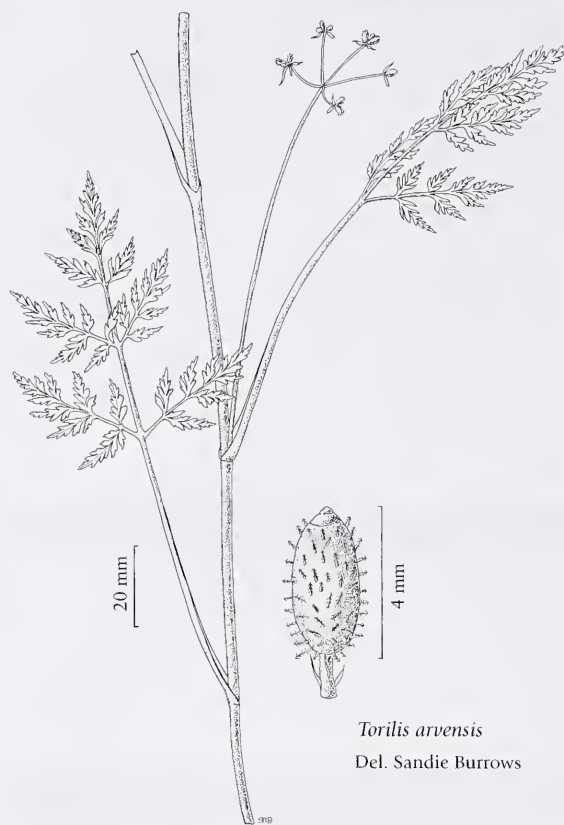
Slender erect tuberous herb with white latex, leaves linear; flowers in white or purplish umbels; in burnt montane grassland; 2,200–2,500 m. Malawi and S. Tanzania.

Source. Goyder (2001).

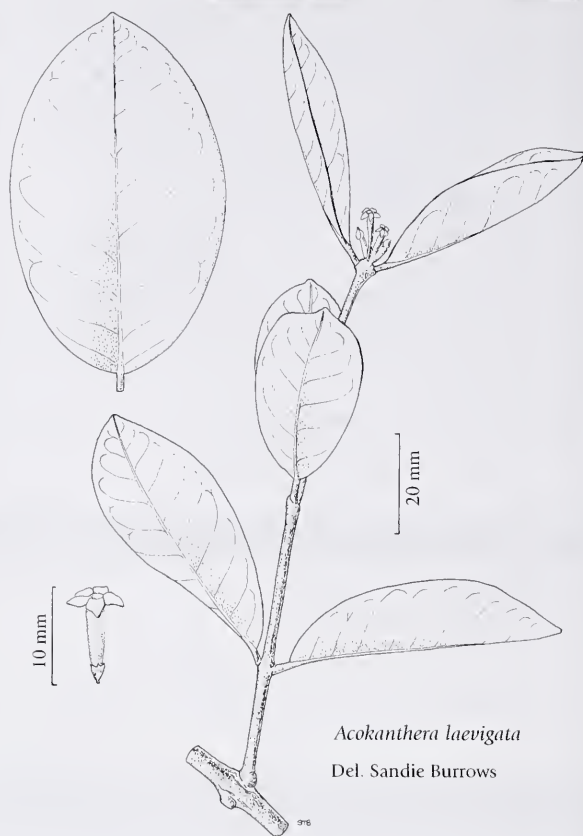
Malawi. Nyika Plateau, Chelinda CDC Camp, 2,200 m, 1958, *Robson & Angus 424* (K).

***Asclepias randii* S. Moore ❖**

Ascending or erect tuberous herb with white latex, linear leaves and erect



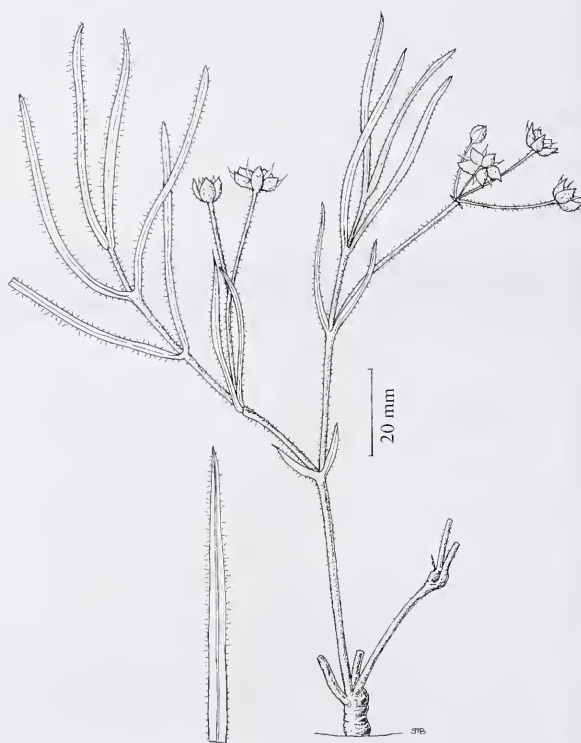
Torilis arvensis
Del. Sandie Burrows



Acokanthera laevigata
Del. Sandie Burrows



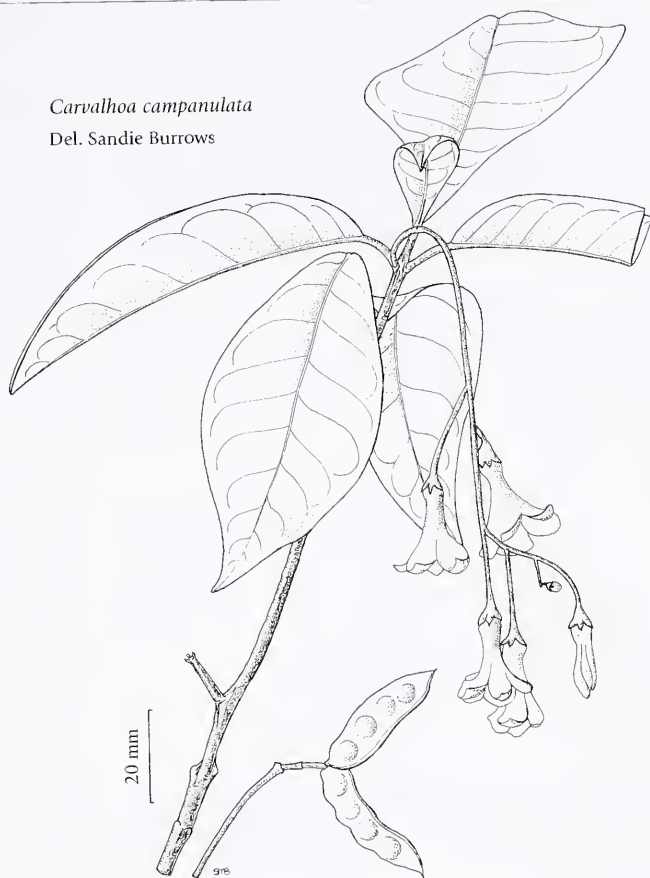
Ancylobotrys petersiana
Del. Sandie Burrows



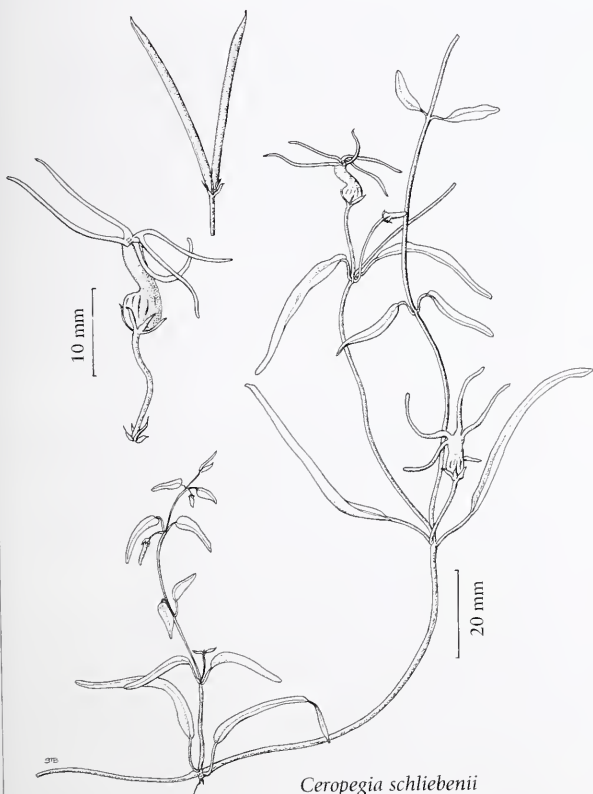
Asclepias randii
Del. Sandie Burrows



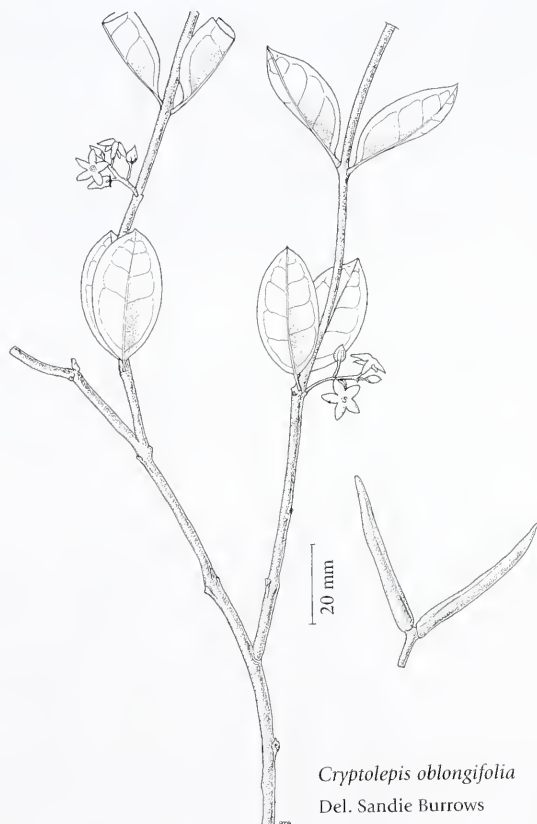
Aspidoglossum breve
Del. Sandie Burrows



Carvalhoa campanulata
Del. Sandie Burrows



Ceropegia schliebenii
Del. Sandie Burrows



Cryptolepis oblongifolia
Del. Sandie Burrows

stellate flowers; in burnt montane grassland; 2,200–2,500 m. Also in Angola, Zambia, Zimbabwe, Mozambique, and southern Tanzania.

Malawi. Nyika Plateau, top of ridge off road to Chelinda, 7,500', 1967, Richards 22553 (K).

Asclepias sp. [= *Richards* 57 (K)]

Ascending or erect tuberous herb with white latex, oblong leaves and erect stellate flowers; in burnt montane grassland; 200–2,250 m. Also found in southern Tanzania and the Mbala region of northern Zambia.

Malawi. Nyika Plateau, near Chelinda CDC Camp, 2,200 m, 1958, Robson & Angus 373 (K).

Asclepias sp. [= *Richards* 6689 (K)]

Ascending or erect tuberous herb with white latex, linear-lanceolate leaves and dull green or pinkish flowers; in burnt montane grassland; 2,200–2,500 m. Also in S. Tanzania on the Mbeya, Kitulo, and Poroto mountains.

Malawi. Nyika Plateau, 30 km along road to Kasaramba Viewpoint, 1966, Pawek 745 (MAL).

Aspidoglossum angustissimum (K.Schum.) Bullock

Aspidoglossum whytei (N.E.Br.) Bullock; *Schizoglossum angustissimum* K.Schum.; *Schizoglossum elatum* K.Schum.; ?*Schizoglossum ledermannii* Schltr.; *Schizoglossum whytei* N.E.Br.; ?*Schizoglossum zernyi* Markgr. Slender erect single-stemmed tuberous herb to 1.5 m with white latex, clusters of brownish pubescent flowers; in montane grassland with *Protea*; 2,000 m. Widespread in central and eastern parts of tropical Africa.

Source. Patel (1999); synonymy from Kupicha (1994).

Malawi. Nyika Plateau, N.E. of Nganda, Patel, Ludlow & David 5116 (K, MAL).

Aspidoglossum breve Kupicha ✧

Slender erect single-stemmed tuberous herb to 300 mm tall with white latex and clusters of brownish flowers; in montane grassland; 2,000–2,600 m. Restricted to the Nyika Plateau of northern Malawi and the Kitulo Plateau in southern Tanzania.

Source. Kupicha (1994).

Malawi. Nyika Plateau, Nganda Peak, 1992, Goyder, Paton & Tawakali 3557 (BR, K, MAL, PRE).

Carvalhoa campanulata K.Schum. ✧

Carvalhoa macrophylla K.Schum.

Shrub or small tree to 5 m tall, leaves opposite, thin, with milky latex; flowers in loose heads on a long stalk from leaf axils, cream to pale yellow with red streaks in throat; fruit of paired dehiscent carpels; in understorey of evergreen forest, 800–1,900 m. Mozambique, Malawi, Tanzania, and Kenya.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Ceropegia claviloba Werderm.

Slender twiner to 1.5 m from a globose tuber, latex clear, flowers tubular with lobes united at tip, small, white with black markings; in evergreen forest; 1,700–2,300 m. Tanzania, Zambia, Zimbabwe, and Malawi.

Malawi. Nyika Plateau, Chisanga Forest on N. Rukuru River, Brummitt, Polhill & Banda 16189 (K, MAL).

Ceropegia filipendula K.Schum.

Ceropegia medoensis N.E.Br.; *Ceropegia dichroantha* K.Schum.

Erect single-stemmed herb with clear latex and fleshy roots, flower tubular with lobes united at tip, large, yellow-green or brown; in *Brachystegia* woodland; 900–1,500 m. Also in Tanzania, Mozambique, Zambia, Zimbabwe, and Angola.

Malawi. Nyika Plateau N.E. of Nganda, Patel, Ludlow, Scott & Creegan 5087 (K, MAL).

Ceropegia schliebenii Markgr. ✧

Slender vine with clear latex, tuberous root, flowers purplish with a deep tube and spidery lobes; shallow soil over rock slabs; 2,000–2,250 m. Southern Tanzania and northern Malawi.

Malawi. Nyika Plateau, Chelinda Bridge, Brummitt, Polhill & Banda 16148

(K, MAL); 6.2 km from Lake Kaulime on Zungwara Road, 2000, Burrows & Burrows 6880 (Buffelskloof Herbarium).

Ceropegia sp. [= *Goyder, Paton & Tawakali* 3579]

Slender erect herb with clear latex and a globose tuber, flower with narrow cylindrical tube and united lobes, yellowish with red streaks; in shallow soil over rock slabs; 1,750 m. Known only from the Nyika.

Malawi. Nyika Plateau, escarpment below Jalawe Viewpoint, 1992, Goyder, Paton & Tawakali 3579 (K, MAL).

Cryptolepis oblongifolia (Meisn.) Schltr. ✧

Ectadiopsis nigritana Benth.; *Ectadiopsis oblongifolia* (Meisn.) Schltr.; *Ectadiopsis welwitschii* Baill.; *Secamone acutifolia* Sond.

Erect subshrub with white latex, reddish stems and tubular white flowers; in *Brachystegia* woodland; 1,500–2,000 m. Widespread in eastern and southern Africa from Sudan to South Africa and Namibia.

Malawi. Nyika National Park, escarpment below Jalawe Viewpoint, 1992, Goyder, Paton & Tawakali 3577 (BR, K, MAL, PRE).

Cynanchum praecox Schltr. ex S.Moore

Cynanchum pygmaeum Schltr.

Plant leafless at time of flowering, just an umbel of brownish yellow flowers at soil level, latex white; in burnt montane grassland; 2,000–2,300 m. Distribution scattered irregularly over W. and E. tropical Africa.

Source. Liede (1996); Brummitt (1973).

Malawi. Nyika National Park, Nganda, 1972, Syngé 370 (K, MAL).

Cynanchum rungweense Bullock ✧

Vine climbing to 12 m with white latex, leaves heart-shaped, glaucous below with red veins; on forest fringes; 2,000–2,400 m. Northern Malawi, Zambia, and southern Tanzania.

Source. White *et al.* (2001)

Malawi. Nyika Plateau, central plateau, Dowsett-Lemaire 236 (K).

Zambia. Nyika Plateau S. of Zambian Rest House, 1989, Goyder, Pope & Radcliffe-Smith 3269 (K, MAL, NDO).

Glossostelma carsonii (N.E.Br.) Bullock ✧

Asclepias carsonii (N.E.Br.) Schltr.; *Gomphocarpus chlorojodina* K.Schum.; *Schizoglossum carsonii* (N.E.Br.) N.E.Br.; *Schizoglossum chlorojodinum* (K.Schum.) N.E.Br.; *Schizoglossum kassneri* S.Moore; *Xysmalobium carsonii* N.E.Br.

Erect single-stemmed tuberous herb with white latex, linear fleshy leaves and large, yellow-green flowers frequently marked with purple; in montane grassland and *Brachystegia* woodland; 1,700–2,250 m. From Rwanda to Angola and Mozambique.

Source. Goyder (1995); Mill (1979).

Malawi. Nyika Plateau, 5 km S.W. of Rest House, 2,150 m, 1958, Robson & Angus 206B (K).

Zambia. Nyika Plateau, 2 km S.W. of Chowo Forest, 1992, Goyder, Paton & Tawakali 3538 (K, NDO).

Glossostelma nyikense Goyder

Low single-stemmed tuberous herb with white latex, linear fleshy leaves and small, yellow flowers; burnt montane grassland; 2,100–2,250 m. Endemic to the Nyika Plateau—known from just 6 collections.

Source. Goyder (1995).

Malawi. Nyika Plateau, near Chelinda CDC Camp, 2,200 m, 1958, Robson & Angus 452 (K, LISC, PRE, SRGH).

Zambia. Nyika Plateau, Williamson 1009 (SRGH).

Gomphocarpus praticola (S.Moore) Goyder & Nicholas

Asclepias friesii Schltr.; *Asclepias katangensis* S.Moore; *Asclepias moorei* De Wild.; *Asclepias praticola* S.Moore

Strout herb with 1–3 stems, with white latex, fleshy glaucous leaves and large, green and purple flowers; in *Brachystegia* or *Uapaca* woodland; 1,700–2,000 m. Northern Malawi and southern Tanzania to Angola.

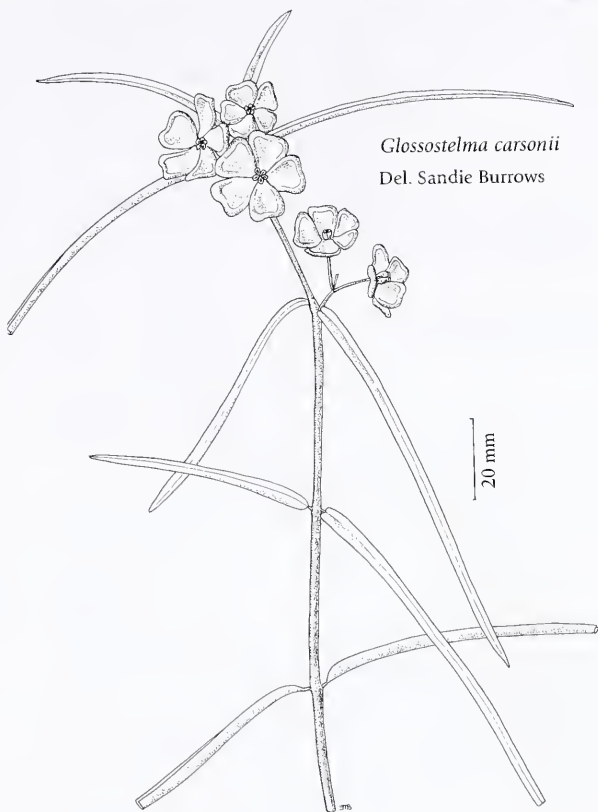
Source. Goyder & Nicholas (2001).

Malawi. Nyika Plateau, track to Rukuru River Falls, 1,800 m, 1959, Richards 10529 (K).

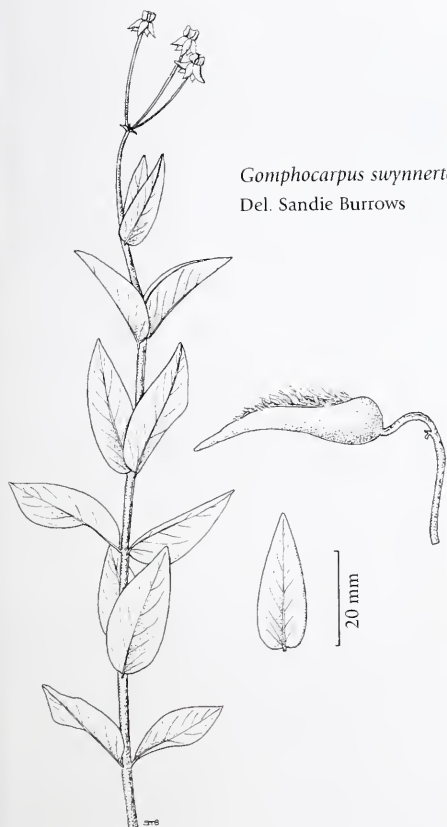
Cynanchum rungweense
Del. Sandie Burrows



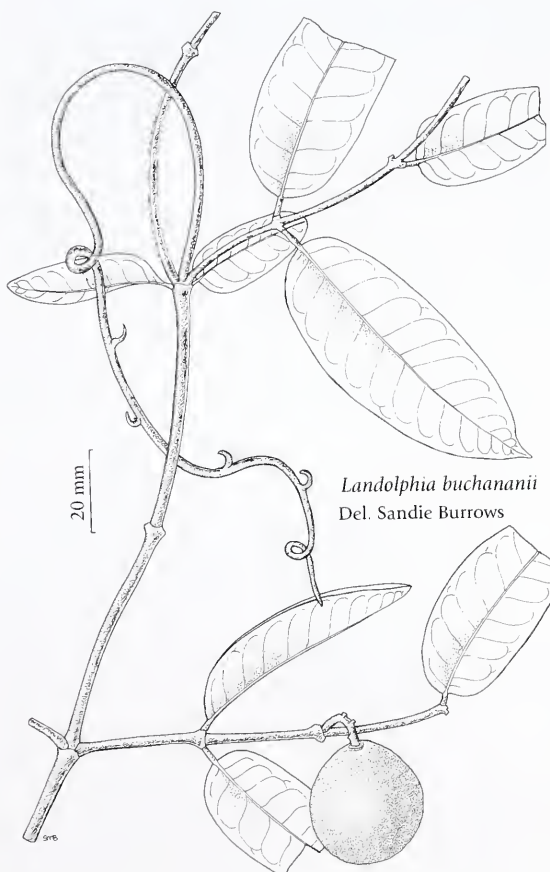
Glossostelma carsonii
Del. Sandie Burrows

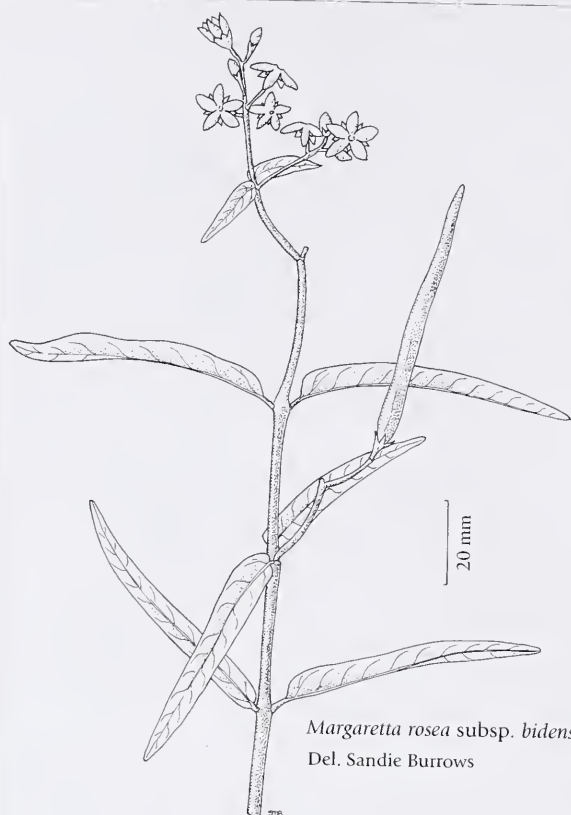


Gomphocarpus swynnertonii
Del. Sandie Burrows



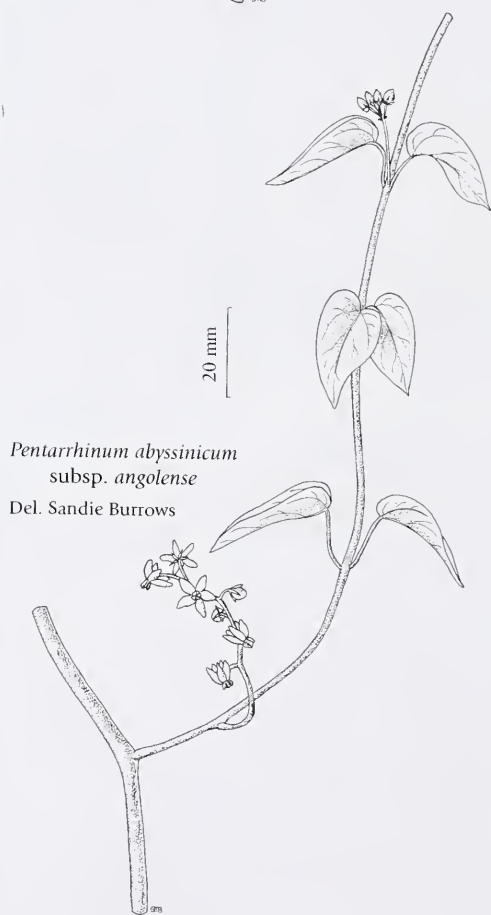
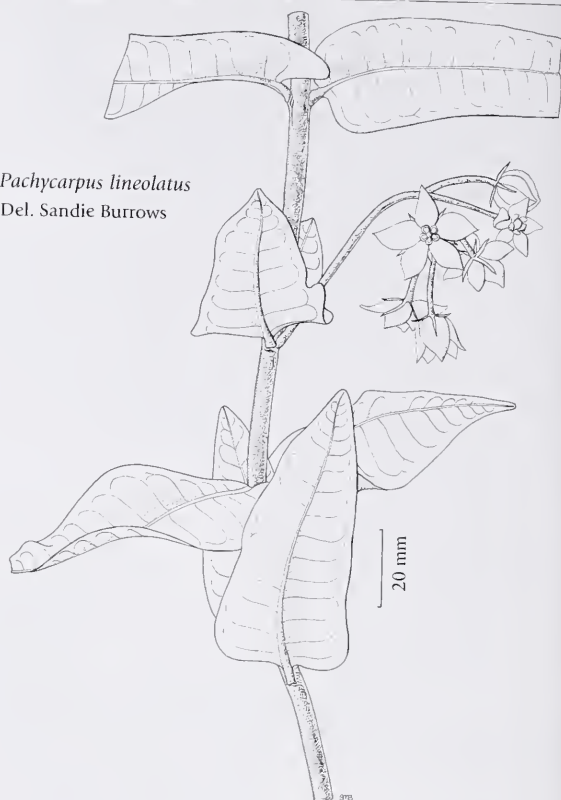
Landolphia buchananii
Del. Sandie Burrows



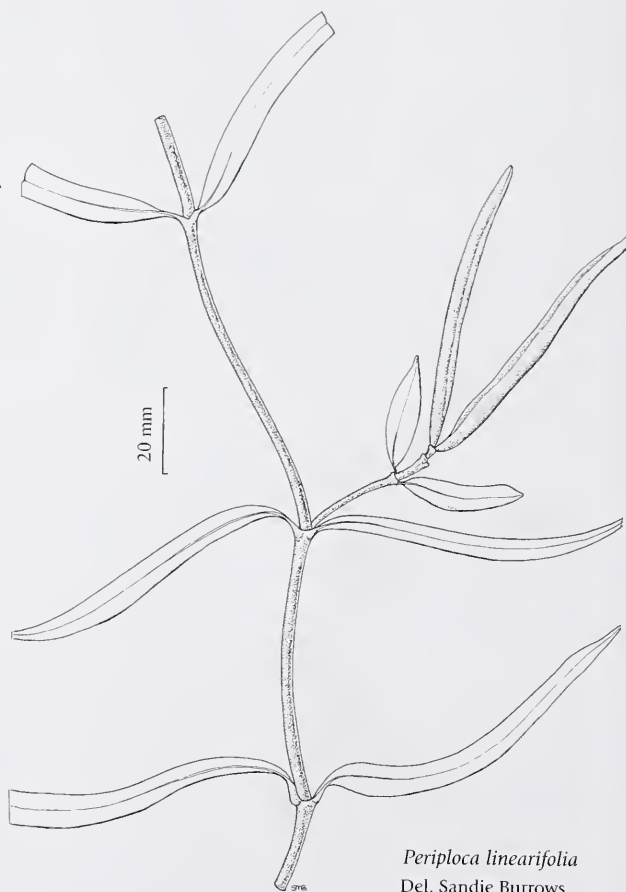


Margaretta rosea subsp. *bidens*
Del. Sandie Burrows

Pachycarpus lineolatus
Del. Sandie Burrows



Pentarrhinum abyssinicum
subsp. *angolense*
Del. Sandie Burrows



Periploca linearifolia
Del. Sandie Burrows

Gomphocarpus swynnertonii (S.Moore) Goyder & Nicholas ✧

Asclepias nyikana Schltr.; *Asclepias swynnertonii* S.Moore

Multi-stemmed herb with white latex, glaucous leaves, and small, greenish yellow flowers; in burnt montane grassland; 2,000–2,250 m. Southern Tanzania, Malawi, Mozambique, and Zimbabwe westwards to Angola.

Source. Goyder & Nicholas (2001).

Malawi. Nyika Plateau, Lake Kaulime, 1958, *Robson & Angus* 336 (K).

Zambia. Nyika Plateau, near turn-off to Chelinda Camp, *Lees* 111 (K).

Landolphia buchananii (Hall.f.) Stapf ✧

Large liane up to 25 m, often with tendrils, leaves opposite, all parts with milky sap, flowers white, in terminal clusters; fruit round, to 100 mm diameter; in montane evergreen and riverine forest. Zimbabwe to D.R.C. and Tanzania. Fruit much loved by monkeys; stems used for making roofs of houses.

Malawi. Nyika National Park, Kasyaula Forest (Dowsett-Lemaire 1985).

Zambia. Nyika National Park, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985).

Margaretta rosea Oliv. subsp. **bidens** Bullock ✧

Margaretta cornetii Dewèvre; *Margaretta decipiens* Schltr.; *Margaretta bolstii* K.Schum.; *Margaretta orbicularis* N.E.Br.; *Margaretta pulchella* Schltr.; *Margaretta verdickii* De Wild.

Erect tuberous herb with white latex and flowers with a petaloid corona; in burnt grassland, usually in peaty soil; ?2,000–2,500 m. Also known from Kenya, Tanzania, the Shaba region of D.R.C., Zambia, N.W. Zimbabwe, and Nigeria.

Source. Mwanyambo (1996).

Malawi. Nyika Plateau, Mwenembwe, 1903, *McClounie* 63 (K).

Pachycarpus goetzei (K.Schum.) Bullock

Schizoglossum goetzei K.Schum.; *Schizoglossum simulans* N.E.Br.

Robust erect tuberous herb with white latex, lanceolate leaves, and nodding white or cream flowers; in *Brachystegia*–*Uapaca* woodland; 1,500–2,000 m. Also occurs in southern Tanzania and Zambia.

Source. Goyder (1998).

Malawi. Nyika National Park, 15 km N. of M1, 1977, *Pawek* 12420 (K).

Pachycarpus lineolatus (Decne.) Bullock ✧

Asclepias browniana S.Moore; *Asclepias conspicua* N.E.Br.; *Asclepias inflexa* S.Moore; *Asclepias schweinfurthii* N.E.Br.; *Gomphocarpus lineolatus* Decne.; *Pachycarpus mildbraedii* Bullock; *Pachycarpus schweinfurthii* (N.E.Br.) Bullock

Robust erect tuberous herb with white latex, broad leaves, and nodding white or pink flowers; in *Brachystegia* or *Uapaca* woodland; 1,600–1,800 m. Widespread in tropical Africa.

Source. Goyder (1998); Mill (1979).

Malawi. Nyika National Park, 12 km N. of M1, 1978, *Pawek* 13720 (K, MO, MAL); Juniper Forest Reserve, 2000, *Chikuni* 522 (MAL).

Pachycarpus spurius (N.E.Br.) Bullock

Schizoglossum debeersianum K.Schum.; ?*Schizoglossum dolichoglossum* (K.Schum.) N.E.Br.; *Schizoglossum spurius* (N.E.Br.) N.E.Br.; ?*Xysmalobium dolichoglossum* K.Schum.; *Xysmalobium spurius* N.E.Br.

Robust erect tuberous herb to ca 1 m with white latex, broad leaves, and nodding cream or pink flowers; in montane grassland or open disturbed woodland; 1,500–2,000 m. Also recorded from southern Tanzania and the Shaba plateaux of D.R.C.

Malawi. Nyika Plateau N.E. of Nganda, *Patel, Ludlow & Scott* 5127 (K).

Pentarrhinum abyssinicum Decne. subsp. **angolense** (N.E.Br.) Liedt & Nicholas ✧

Pentarrhinum abyssinicum Decne. var. *angolense* N.E.Br.

Twining heart-shaped leaves; climbing over vegetation at forest margins; 1,700–2,000 m. Scattered distribution from Cameroon, Uganda, and Kenya to Namibia, Zambia, and Tanzania.

Malawi. Nyika Plateau, Kafwimba Forest, 1969, *Pawek* 2235 (K).

Periploca linearifolia Quart.-Dill. & A.Rich. ✧

Periploca linearis Hochst.

Woody twiner with white latex, linear leaves, and bearded white flowers; scrambling over margins of wet forest; 1,900–2,400 m. Widespread on E. African mountains from Ethiopia to Malawi.

Source. Brummitt (1973).

Malawi. Nyika National Park, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Syngé* 147 (K, MAL).

Zambia. Nyika Plateau, margins of Chowo Forest, *Dowsett-Lemaire* 98 (K).

Raphionacme longituba E.A.Bruce ✧

Tuberous plant with more or less decumbent stems, latex milky; leaves opposite; fruit a pair of comparatively large horn-like pods; geophyte in shallow soils overlying sheetrock in montane grassland. Zimbabwe, Zambia, Malawi, and Tanzania.

Malawi. Nyika National Park, Mpopoti Peak, 2000, *Willis & Luhanga* 89 (MAL, PRE).

Rauvolfia caffra Sonder ✧

Briefly deciduous tree to 30 m tall, leaves clustered towards branch ends, flowers white or yellowish in stalked clusters, fruit round or lobed, red when ripe; in rainforest and riverine forest. Widespread throughout tropical Africa.

Malawi. Nyika Plateau, near Kasyaula Forest, without collecting details (Dowsett-Lemaire 1985: 313).

Rauvolfia mannii Stapf

Rauvolfia rosea K.Schum.

Understorey shrub or small tree to 4 m tall; leaves in whorls of 3–6, flowers white or yellowish in stalked clusters, fruit of 1 or 2 ovoid or obovoid carpels, red when ripe; in wet situations in rainforest. From the Viphya Mountains of Malawi northwards throughout tropical Africa.

Malawi. Nyika National Park, Mwenembwe, *Chapman* 2019 (White *et al.* 2001); Eastern escarpment forests (Dowsett-Lemaire 1985: 354).

Riocreuxia chrysochroma (Huber) A.R.Sm.

Ceropegia chrysochroma Huber

Herbaceous vine with clear latex and heart-shaped leaves; flowers orange within, lobes not united at tips; in scrub or forest patches; 2,000–2,400 m. Known only from the Nyika Plateau and the adjacent Kitulo and Kipengere ranges in southern Tanzania.

Source. White *et al.* (2000).

Malawi. Nyika Plateau, relic forest patch on E. side of Chelinda Valley, 1958, *Robson & Fanshawe* 643 (K).

Riocreuxia profusa N.E.Br. ✧

Ceropegia burchellii (K.Schum.) Huber subsp. *profusa* (N.E.Br.) Huber; *Riocreuxia torulosa* Schltr.

Herbaceous vine with clear latex and heart-shaped leaves, flowers pale orange or yellow, tubular, with slender lobes united at tips; on margins of montane forest; 1,900–2,400 m. Tanzania, Malawi, Zambia, Zimbabwe, and Angola.

Source. White *et al.* (2001: 165)

Zambia. Nyika Plateau, forest patch near Rest House, *Dowsett-Lemaire* 97 (K).

Secamone alpini Schult. ✧

Periploca secamone L.; *Secamone thunbergii* E.Mey.

Slender woody twiner with white latex, leathery leaves, and minute velvety white flowers; on forest margins; 2,000–2,400 m. Widespread over E. African mountains and coastal forests in South Africa.

Source. Goyder (1992).

Malawi. Nyika National Park, without locality or collector (Mill 1979).

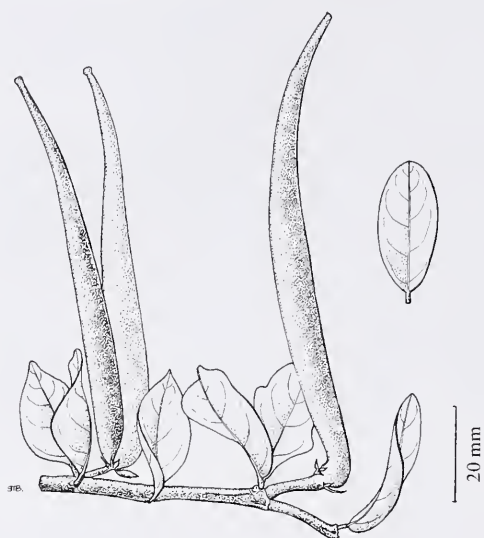
Zambia. Nyika Plateau, margins of Chowo Forest, *Dowsett-Lemaire* 99 (K).

Stathmostelma fornicatum (N.E.Br.) Bullock subsp. **fornicatum** ✧

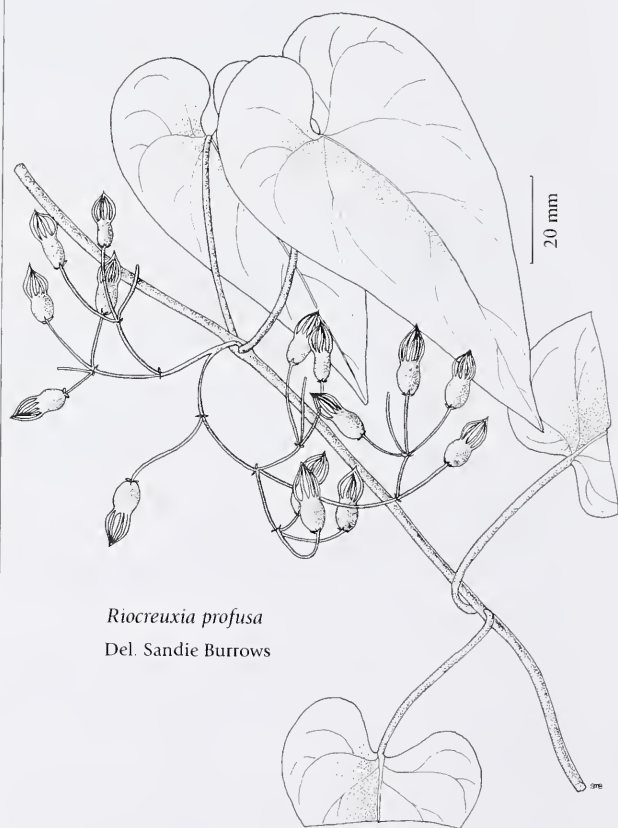
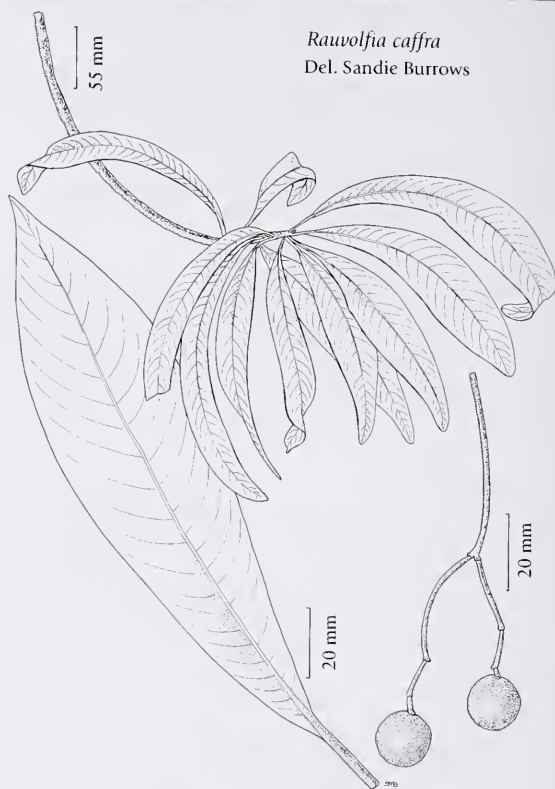
Asclepias fornicata N.E.Br.

Erect single-stemmed tuberous herb with white latex, linear leaves, and green or yellow flowers; in seasonally waterlogged grassland; 2,400 m. Found at lower altitude elsewhere in Malawi, Zambia, Zimbabwe, Botswana, and Angola.

Raphionacme longituba
Del. Sandie Burrows



Rauvolfia caffra
Del. Sandie Burrows



Riocreuxia profusa
Del. Sandie Burrows

Secamone alpini
Del. Sandie Burrows



Source. Goyder (1988).

Malawi. Nyika Plateau, 1903, *McClounie* 81 (K).

***Tabernaemontana stapfiana* Britten ❖**

Tabernaemontana johustonii (Stapf) Pichon; *Conopharyngia stapfiana* (Britten) Stapf.

Tree 5–25 m tall, leaves opposite, 120–400 × 30–140 mm, narrowly elliptic, glabrous; flowers white, large, sweetly scented; fruit in pairs or single, large, 100–200 mm across, green with yellowish dots; in montane forest, 700–2,500 m. Zimbabwe and Mozambique to D.R.C. and Kenya.

Source. Mill (1979).

Malawi. Nyika National Park, eastern escarpment forests (Dowsett-Lemaire 1985: 354).

***Tacazzea conferta* N.E.Br. ❖**

Tacazzea floribunda K.Schum.; *Tacazzea galactagoga* Bullock

Robust woody twiner with white latex; scrambling over forest margins; 2,000–2,200 m. Widely distributed in tropical Africa from Ethiopia to Malawi.

Malawi. Nyika Plateau, Zovochipolo Forest patches, *Dowsett-Lemaire* 251 (K).

Zambia. Nyika Plateau, Chowo Forest, 1976, *Pawek* 11783 (K, MAL, MO).

***Trachycalymma buchwaldii* (Schltr. & K.Schum.) Goyder ❖**

Asclepias affinis De Wild.; *Asclepias buchwaldii* (Schltr. & K.Schum.) De Wild.; *Gompbocarpus buchwaldii* Schltr. & K.Schum.

Short, erect, single-stemmed, tuberous herb with white latex and nodding purple flowers; in montane grassland or *Brachystegia* woodland, generally on steep rocky hillsides; 900–2,400 m. Also found in Tanzania, Burundi, and D.R.C.

Source. Goyder (2001).

Malawi. Nyika National Park, escarpment below Jalawe Viewpoint, 1992, *Goyder, Paton & Tawakali* 3581 (K, MAL).

***Trachycalymma cristatum* (Decne.) Bullock**

Asclepias cristata S.Moore; *Asclepias palustris* (K.Schum.) Schltr.; *Gompbocarpus cristatus* Decne.; *Gompbocarpus palustris* K.Schum.

Short, erect, single-stemmed, tuberous herb with white latex and nodding white or pink flowers; montane grassland or open woodland; 2,000–2,600 m. Widespread in tropical sub-Saharan Africa from Nigeria to An-

gola and Zimbabwe.

Source. Goyder (2001).

Malawi. Nyika Plateau, Circular Drive, 1977, *Pawek* 12271 (K, MO).

Zambia. Nyika Plateau, Rest House, 2,100m, 1959, *Richards* 10410 (K).

***Trachycalymma foliosum* (K.Schum.) Goyder**

Asclepias foliosa (K.Schum.) Hiern; *Asclepias lepida* S.Moore; *Asclepias minuta* A.Chev.; *Asclepias modesta* N.E.Br.; *Gompbocarpus foliosus* K.Schum.; *Trachycalymma pulchellum* sensu Bullock, in part

Erect, single-stemmed, tuberous herb with white latex and nodding white flowers; *Brachystegia* woodland; 1,100–2,000 m. Widespread in savanna regions of S. tropical Africa and W. Africa.

Source. Goyder (2001).

Malawi. Nyika, 1 mile in Nyika Road [from Rumphii?], 4,900', 1969, *Pawek* 3249 (K).

***Tylophora anomala* N.E.Br.**

Slender woody twiner with watery latex, large leathery ovate-lanceolate leaves and zig-zag inflorescences with green flowers in clusters; forest margins; 1,500–2,000 m. Kenya, Tanzania, Zambia, Malawi, and Mozambique.

Malawi. Nyika Plateau, Kasyaula Forest, *Dowsett-Lemaire* 243 (K).

***Tylophora erubescens* (Liede & Meve) Liede ❖●**

Tylophoropsis erubescens Liede & Meve

Slender twiner with clear latex, leaves ovate *ca* 10 mm long; flowers delicate maroon; in wet montane forest; 1,800–2,300 m. Also known from S. Tanzania.

Malawi. Nyika National Park, Zovochipolo Forest, 2000, *Winter & Burrows* 4143 (K, PRE).

***Xysmalobium undulatum* (L.) Ait.f. ❖**

Asclepias undulata L.; *Xysmalobium ensifolium* Burch. ex Sc.-Elliot; *Xysmalobium angolense* Sc.-Elliot

Stout erect herb with white latex, triangular leaves, and hairy, reddish purple flowers, fruit covered in hairy prickles; in damp hollows in montane grassland; 2,000–2,250 m. Widespread in sub-Saharan Africa.

Source. Brummitt (1973).

Malawi. Nyika National Park, W. foot of Nganda, 1972, *Brummitt & Synge* 35 (K).

Excluded species

***Landolphia kirkii* Dyer**

Straggling shrub or liane to 18 m tall. This record is doubtful. Dowsett-Lemaire (1985) did not find it in her comprehensive survey of the Nyika forests. Both White *et al.* (2001) and *Flora zambesiaca* (1985) do not record this species from N. Malawi. Since Patel quoted no specimen and we have seen no specimens, it is excluded.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Gompbocarpus glaucophyllus* Schltr.**

This is almost certainly *G. praticola*.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Stathmostelma welwitschii* Britt. & Rendle**

Asclepias welwitschii (Britt. & Rendle) Britt. & Rendle; *Stathmostelma chironoides* K.Schum. ex De Wild. & T.Durand; *Stathmostelma laurentianum* Dewevre

This species does not occur in the area. The record may come from a misidentified specimen of *Asclepias randii* at K, MO, and SRGH labelled S. cf. *welwitschii*, or is *S. fornicatum*.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Stenostelma* sp.**

This is not *Stenostelma*; probably refers to *Asclepias* sp. (= *Richards* 57(K)). **Malawi.** Nyika National Park, without locality or collecting details (Patel 1999).

***Trachycalymma pulchellum* (Decne.) Bullock**

This is almost certainly *T. foliosum*.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

AQUIFOLIACEAE

***Ilex mitis* (L.) Radlk. ❖**

Cape holly; *Chichewa*: katenji; *Yao*: katenji, mulisanyundo

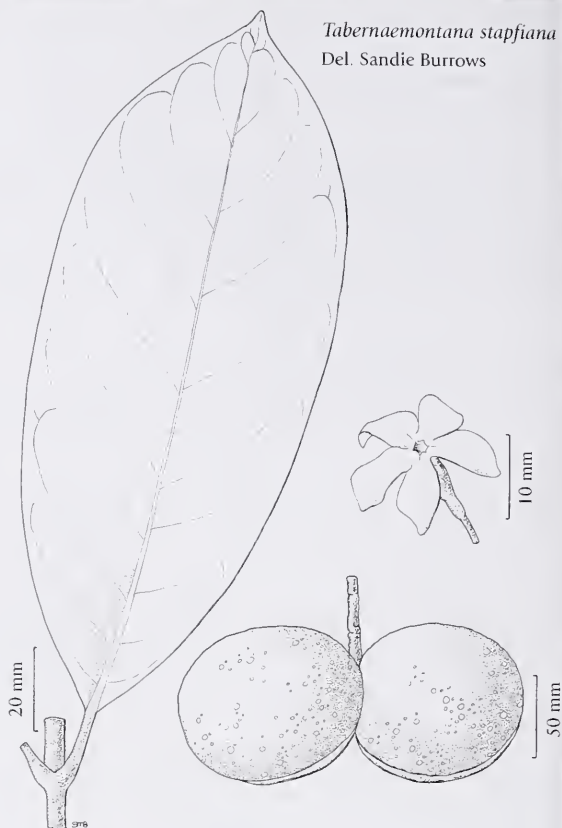
Evergreen tree to 20 m, leaves simple, margins almost entire with a few minute teeth near the apex, fruit (female trees only) a small red berry; along streams and rivers in evergreen forest and riverine vegetation. From South

Africa (Western Cape) to Ethiopia and Guinea.

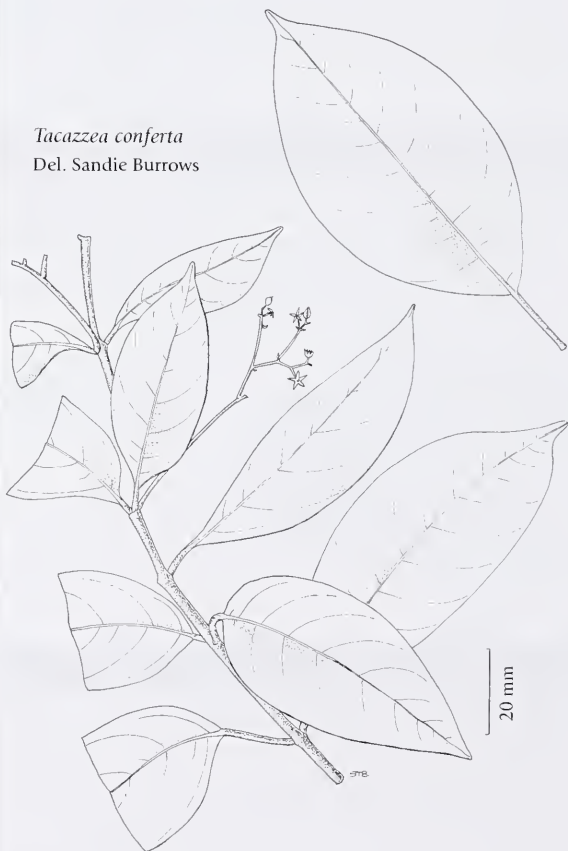
Malawi. Nyika National Park, Lake Kaulime, 1958, *Robson* 277 (BM, K, LISC, PRE, SRGH); Dembo Bridge, 2000, *Thera* 3009 (MAL); near Chelinda Compound, 1959, *Adlard* 312 (FHO, SRGH).



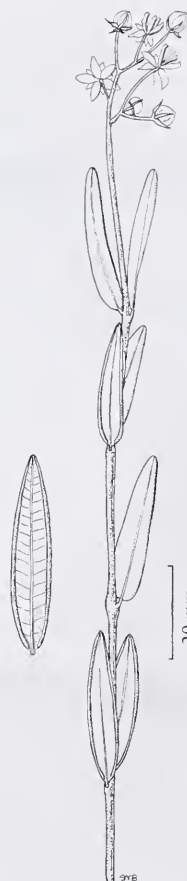
Stathmostelma fornicatum subsp. *fornicatum*
Del. Sandie Burrows



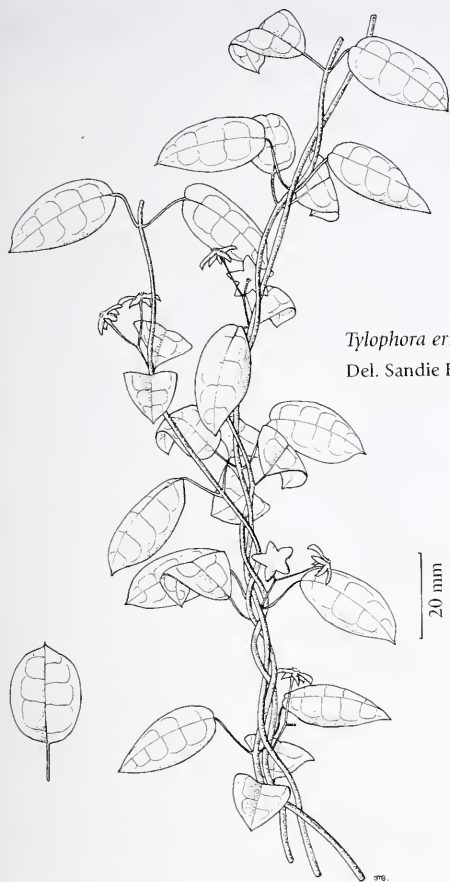
Tabernaemontana stapfiana
Del. Sandie Burrows



Tacazzea conferta
Del. Sandie Burrows

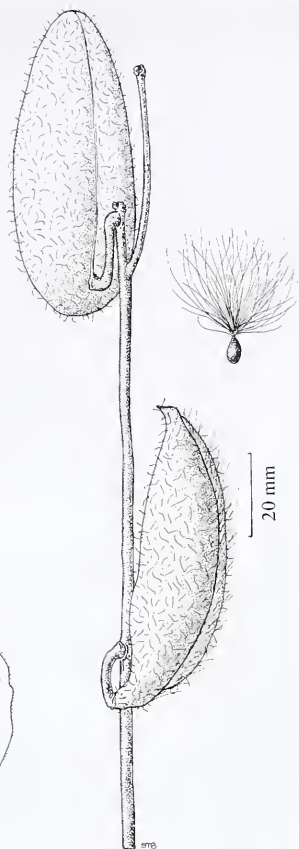
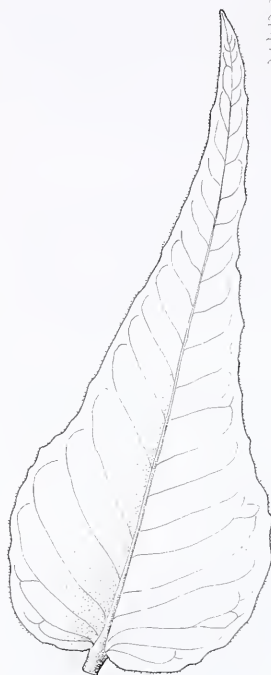


Trachycalymma buchwaldii
Del. Sandie Burrows



Tylophora erubescens
Del. Sandie Burrows

Xysmalobium undulatum
Del. Sandie Burrows



Ilex mitis
Del. Sandie Burrows



Cussonia spicata

Cussonia arborea
Del. Sandie Burrows

Cussonia arborea Hochst. ex A.Rich. ❖*Cussonia kirkii* Seem.octopus cabbage tree; *Chibewa*: m'bwabwa; *Timbuka*: chipombora; Yao: chandimbo

Small to medium deciduous tree to 11 m tall; leaves digitate, leaflets sessile, simple, obovate, glabrous, margins variously toothed; flowers and fruit in 10–12 long sinuous spikes; in open woodland or wooded grassland. Very widely spread in tropical Africa.

Malawi. Nyika National Park, without locality or collector (Mill 1979).**Cussonia spicata** Thunb. ❖

cabbage tree; Yao: chandimbo

Tree to 20 m tall, often with a small, dense, rounded crown, stem fluted in old specimens; leaves digitate, leaflets lobed apically, with the stalks distinctly winged upwards, dark green, hairless, margins irregular; fruiting inflorescence of several thickened erect 'fingers'; in forest, open woodland, wooded grassland, and riverine forest; up to 2,500 m. South Africa to E. Africa.

Source. Brummitt (1973).**Malawi.** Nyika Plateau, W. foot of Nganda, 1972, *Synge* 472 (K, MAL).**Zambia.** Nyika Plateau, Kangampande Mountain, 1952, *White* 2569 (K).**Polyscias fulva** (Hiern) Harms ❖*Polyscias malosana* Harms [Type: Malawi, Malosa Mountain, Whyte s.n. (K)].

parasol tree

Tall tree to 30 m, with a tall clear bole; leaves large, pinnate, dark green above, minutely hairy below; inflorescence a complex arrangement of racemes; fruit 3–5 mm diameter, fleshy, ribbed; in forest; up to 2,500 m. Widespread throughout tropical Africa from Zimbabwe northwards. A fast-growing pioneer species, often with the crown conspicuous above the forest canopy.

Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 315).**Zambia.** Nyika Plateau, Manyanjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 315).**Schefflera abyssinica** (A.Rich.) Harms

Robust liane or epiphyte up to 30 m; leaves digitate with 5–7 radiating leaflets, leaflets leathery, hairless, margin serrulate, veins conspicuous and regularly spaced; inflorescence a sparse raceme of small umbels, up 150–350 mm long; fruit round, to 5 mm diameter; in montane forest, scrambling up trees; up to 2,800 m. Malawi to Cameroon and Ethiopia; rare on the Nyika Plateau.

Source. Mill (1979).**Malawi.** Nyika National Park, Kasyaula Forest (Dowsett-Lemaire 1985: 379).**Schefflera goetzenii** HarmsRobust liane or small tree; very similar to *S. abyssinica*, but with the leaf lateral veins rather inconspicuous and irregular; in montane forests; 950–2,500 m. Zimbabwe to D.R.C. and E. Africa.**Malawi.** Nyika Plateau, Zovochipolo Forests (Dowsett-Lemaire 1985: 379).**Zambia.** Nyika Plateau, Chowo Forests (Dowsett-Lemaire 1985: 379).**Schefflera myriantha** (Baker) Drake ❖*Schefflera polysciada* Harms

Robust liane, shrub or small tree to 16 m tall; leaves digitate, very similar to the two species mentioned above, but the inflorescence is a panicle (not raceme) of small umbels; in riverine and montane forests; up to 3,500 m. Also in tropical E. Africa. Confined to the eastern escarpment forests on the Nyika.

Source. *Flora zambesiaca* 4: 624 (1978); Dowsett-Lemaire (1985: 355).**Malawi.** Nyika Plateau, without precise locality, 1946, *Brass* 17278 (K, SRGH).

ASTERACEAE

Acmella caulirhiza Del. ❖*Spilanthes africana* DC.; *Spilanthes caulirhiza* (Del.) DC.

Creeping and ascending perennial or annual herb to 150 mm high or stems to 600 mm long, often rooting at the nodes; leaves narrowly to broadly ovate, 10–70 × 8–40 mm, base attenuate, margin dentate, petiole 1–15 mm long and narrowly winged; capitula hemispherical becoming conical, terminal, solitary on peduncles to 2–70 mm long; rays 10–15, yellow, 2.2–3.3 mm long, inconspicuous; in wet places by streams and in swamps, cultivated areas, and forest margins. Widespread in tropical and subtropical Africa and Madagascar.

Source. Wild (1967: 60); *F.T.E.A. Compositae* (3) (unpublished ms.).**Malawi.** Nyika Plateau, Rukuru River, 1958, *Robson* 469 (BM, K, SRGH).**Adenostemma cafferum** DC. var. **asperum** Brenan ❖*Adenostemma schimperii* A.Rich.

Vigorous, erect or semi-procumbent semi-succulent herb, 1.5 m high, rooting at nodes; leaves sessile or shortly petiolate, blade lanceolate to ovate-lanceolate, 40–125 × 13–48 mm, margins sub-entire to serrate, apex obtuse; inflorescence a loose terminal cyme; capitula few to several, 6–10 mm diameter; florets about 50, corolla 3–4 mm long, white; in damp places along streams in forest or woodlands. Widespread throughout tropical Africa.

Source. Patel (1999); Brummitt (1973); Hilliard (1977); King & Robinson (1987); *F.T.E.A. Compositae* (3) (unpublished ms.).**Malawi.** Nyika National Park, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Synge* 132 (K, MAL, SRGH); Wowwe River, 2000, *Willis & Patel* 155 (PRE).**Ageratinastrum polyphyllum** (Baker) Mattf. ❖*Ageratinastrum goetzeanum* (O.Hoffm.) Mattf.; *Ageratina goetzeana*O.Hoffm.; *Ageratum polyphyllum* Baker

Erect tufted perennial herb to 1 m high with annual stems; stems many,

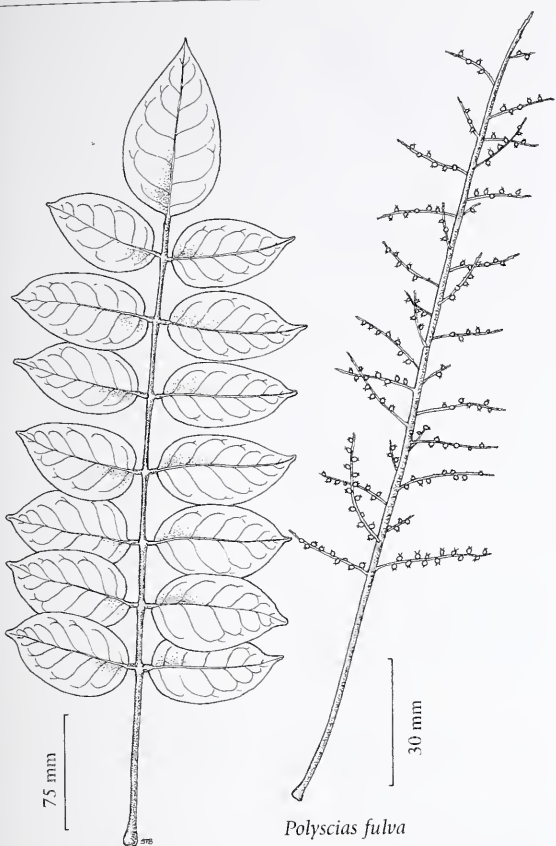
densely leafy, densely pilose-tomentose and glandular; leaves sessile or subsessile, overlapping, alternate or spirally arranged, 2–45 × 4–12 mm, narrowly oblong-lanceolate to narrowly elliptic or ovate; capitula numerous corymbiform cymose; corollas purple; Malawi, Zambia, and Tanzania.

Source. Patel (1999); *Flora zambesiaca* 6(1): 181 (1992); Wild & Pope (1975: 358); Patel & Overton (2002).**Malawi.** Nyika Plateau, Nchenachena Spur, ca 2,000 m, 1946, *Brass* 17345 (BM, K, SRGH); Chelinda Bridge, 2000, *Salubeni & Mwanyambo* 6768 (MAL); Mbuzinandi, 2000, *Salubeni & Mwanyambo* 6827 (MAL).**Zambia.** Nyika National Park, ca 0.5 km S.W. of Zambian Government Rest House, 1986, *Philcox, Pope & Chisumpa* 9978 (BR, K, LISC, MO, NDO, SRGH).***Ageratum conyzoides** L. ❖

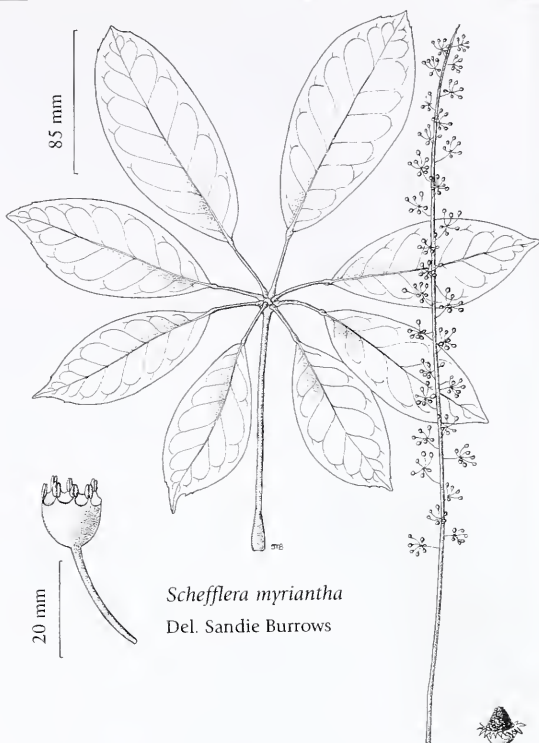
Annual herb up to 1 m high, stem erect to occasionally decumbent, whitish pubescent; leaves opposite, ovate to rhomboid, 22–85 × 12–60 mm, margins crenate to serrate; capitula 7–40 in open to dense cyme, 4–5 mm across; florets 40–57, corolla 2–2.2 mm long, white, mauve or purple; a pantropical weed of cultivation, often near water. Native to West Indies, Mexico, Central and S. America; throughout tropical and southern Africa.

Source. Patel (1999); Patel & Overton (2002).**Malawi.** Nyika National Park, without locality or collecting details (Patel 1999: 21).**Anisopappus chinensis** (L.) Hook. & Arn. subsp. **buchwaldii** (O.Hoffm.) S.Ortiz, Paiva & Rodr.-Oubiña var. **buchwaldii** ❖*Anisopappus africanus* (Hook.f.) Oliv. & Hiern; *Anisopappus buchwaldii* (O.Hoffm.) Wild; *Anisopappus chinensis* (L.) Hook.f. & Arn. subsp. *buchwaldii* (O.Hoffm.) S.Ortiz, Paiva & Rodr.-Oubiña var. *macrocephala* (Humbert) S.Ortiz, Paiva & Rodr.-Oubiña

Perennial herb or shrublet, 0.4–1.5 m high, stems white-puberulous; leaves



Polyscias fulva
Del. Sandie Burrows



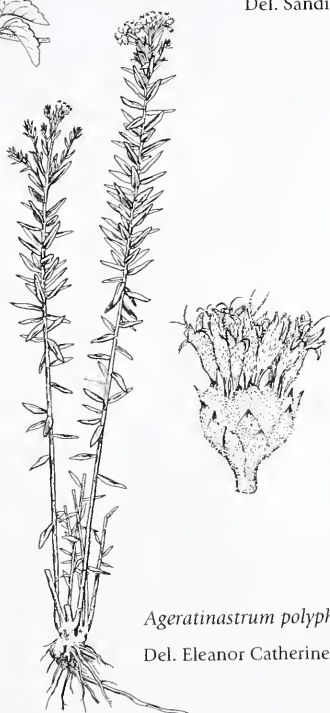
Schefflera myriantha
Del. Sandie Burrows



Adenostemma caffrum var. *asperum*
Del. Sandie Burrows



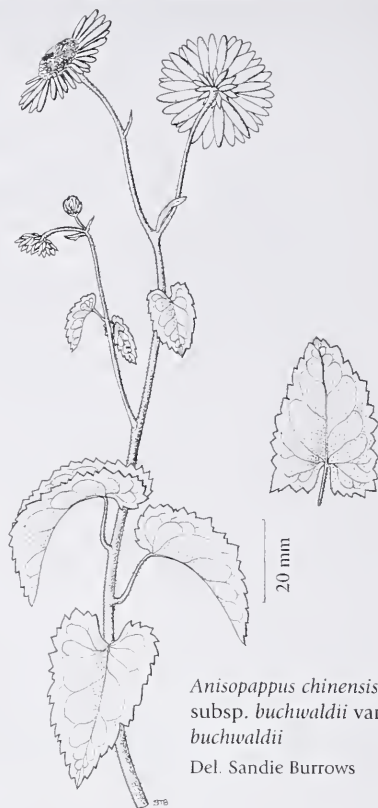
Acmella caulirhiza
Del. Sandie Burrows



Ageratinastrum polyphyllum
Del. Eleanor Catherine



Ageratum conyzoides
Del. Sandie Burrows



Anisopappus chinensis
subsp. *buchwaldii* var.
buchwaldii
Del. Sandie Burrows



Artemisia afra
Del. Sandie Burrows



Aspilia pluriseta
Del. Sandie Burrows

ovate to deltoid, 10–60 × 3–55 mm, glandular, margins crenate; capitula 5–12 mm long; florets yellow, tube of outer florets 1.4–2.5 mm long, sparsely glandular, ray 6–10 mm long; disc florets 1.7–4.5 mm long; in submontane grassland or miombo woodland, often in damp or marshy sites and thicket margins. Widespread in tropical Africa.

Source. Patel (1999); *F.T.E.A. Compositae* (2): 345 (2002).

Malawi. Nyika National Park, Chelinda Bridge, 2000, *Salubeni & Mwanyambo 6770* (MAL); Dembo Bridge, 2000, *Thera 3008* (MAL); Juniper Forest, 2000, *Chikuni 507* (MAL); Southern Circular Route, Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer 1780* (PRE); Wovwe River catchment area, 2000, *Willis 166* (PRE).

Anisopappus chinensis (L.) Hook. & Arn. subsp. **buchwaldii** (O.Hoffm.) S.Ortiz var. **dentatus** (DC.) S.Ortiz, Paiva & Rodr.-Oubiña

Epalage dentata DC. var. *macrocephala* Humbert

Annual herb, 0.1–1 m high, stems reddish or pale green, pubescent; leaves ovate or deltoid, 10–60 × 4–55 mm, pilose and glandular; capitula 4–7 mm long; florets yellow, ray 2.6–5.5 mm long and sparsely glandular below; achenes 0.8–1.1 mm long; pappus absent; grassland, miombo woodland, roadsides, weed of cultivation. Uganda and D.R.C. to Angola, Mozambique, and Zimbabwe.

Source. Patel (1999); *F.T.E.A. Compositae* (2): 346 (2002).

Malawi. Chelinda Bridge, 2000, *Salubeni & Mwanyambo 6770* (MAL); Mbuzinandi, 2000, *Salubeni & Mwanyambo 6817* (MAL); Dembo Bridge, 2000, *Thera 3008* (MAL); Juniper Forest, 2000, *Chikuni 507* (MAL); Nyika National Park, Chosi Viewpoint, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer 1689* (PRE).

Anisopappus chinensis (L.) Hook.f. & Arn. subsp. **chinensis**

Verbesina chinensis L.; *Anisopappus aureus* Hutch. & B.L.Burtt;

Anisopappus canescens Hutch.

Perennial herb, 0.3–0.9 m high, stem single, white-pilose; leaves elliptic or ovate, 20–65 × 3–30 mm, base cuneate; capitula 7–10 mm long; phyllaries densely pilose and glandular; florets yellow, tube of outer florets 0.8–1.8 mm long, ray 3.5–6 mm long, disc floret tubes 2.5–3.4 mm long; achenes 1.5–2.2 mm long, short-pilose on ribs; in wooded grassland. Malawi to Angola, W. Africa, Mali, and Chad; also in India, China, Thailand, Burma, and Vietnam.

Source. *F.T.E.A. Compositae* (2): 344 (2002).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); sight record: Mpopoti Peak, *Salubeni*, 2001.

Anisopappus kirkii (Oliv.) Brenan

Sphacophyllum kirkii Oliv.; *Sphacophyllum flexuosum* Hutch.

Perennial herb, to 1 m high, stem tomentose; leaves 80–140 × 40–90 mm, base cuneate; capitula 15 mm long, in terminal corymb; phyllaries densely pilose and glandular; florets yellow, ray florets 30, tube 3 mm long, ray 8 × 2.5 mm; disc floret tubes 3.5 mm long; achenes cylindrical, to 1.5 mm long, glabrous; pappus of unequal scales 0.3–1 mm long; in wooded grassland. Zimbabwe, Malawi, and Mozambique.

Source. *Kew Bulletin* 7: 249 (1906); Ortiz et al. (1996).

Malawi. Nyika National Park, Mpopoti, 2000, *Mwanyambo 550* (MAL).

Artemisia afra Jacq. ex Willd. ❖

Artemisia afra Willd. var. *friesiorum* Chiov.

Woody, perennial herb 0.3–2 m high, strongly aromatic, white-pubescent and glandular; leaves grey-green above, grey to whitish beneath, bi- to tripinnatifid, 30–140 × 15–60 mm, pseudopetiole 10–40 mm long; capitula 2–4 mm long, many (hundreds) in large panicles with individual capitula nodding; outer florets 1-seriate, 4–10, 1.2–1.4 mm long; inner florets 10–35, yellow or pale yellow, 1–1.8 mm long; in high mountain grassland, wooded grassland, in secondary vegetation, pioneer after fire. Widespread from South Africa through tropical E. Africa to Ethiopia.

Source. Dowsett-Lemaire (1985); Patel (1999); Brummitt (1973); *F.T.E.A. Compositae* (2): 529 (2002).

Malawi. Nyika Plateau; N.W. foot of Nganda, 1972, *Brummitt & Synge 26* (K, MAL); W. of Vithintha Hill, 2000, *Salubeni & Mwanyambo 6764* (MAL); Dembo Bridge, 2000, *Thera 3015 & 3019* (MAL); Juniper Forest, 2000,

Chikuni 501 (MAL); close to Chosi Viewpoint, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer 1693* (PRE).

Aspilias kotschy (Hochst.) Oliv. var. **kotschy**

Dipterotheca kotschy Hochst.

Annual herb 0.3–1.8 m high; leaves (sub-) sessile, narrowly ovate to narrowly elliptic 30–160 (200) × 6–30(50) mm, base obtuse, truncate or semi-amplexicaul, margin subentire or shallowly crenate, hispid on both surfaces; capitula axillary, solitary and subsessile among the upper leaves; ray florets dark red, purple or almost black, less often white, 2–5(11), without styles, ray almost circular, 6–9 mm long; achenes obovoid, 5–6 mm long; pappus a lacerated cupule to 1 mm long and usually with 2 setae; in moist grassland, waste land, a weed of cultivation. Widespread in Central Africa.

Source. Patel (1999); Wild (1966); *F.T.E.A. Compositae* (3) (unpublished ms.); Patel & Overton (2002).

Malawi. Nyika Plateau, 1903, *McClounie 165* (K).

Aspilias mossambicensis (Oliv.) Wild

Wedelia mossambicensis Oliv.; *Aspilias vernayi* Brenan; *Aspilias natalensis* sensu Wild

Perennial herb or shrub, 10 mm–2.5 m high, single or multi-stemmed, branches scabrid-pubescent, sometimes also glandular; leaves sessile or with short petiole; ovate, narrowly elliptic or lanceolate, 25–200 × 10–85 mm, 3-veined from base; capitula terminal and solitary or in few-headed lax racemes, stalks of individual capitula to 140 mm long; ray florets cream, yellow to orange, 7–17, with or without styles, ray 7–18.5 × 3–6.5 mm; in open woodland, ruderal sites, seasonal swamps, along rivers and lakes, forest margins, and wooded grassland; may be locally common. From Ethiopia through eastern Africa to South Africa.

Source. Patel (1999); Wild (1966); Hilliard (1977: 307); *F.T.E.A. Compositae* (3) (unpublished ms.); Patel & Overton (2002).

Malawi. Nyika National Park, between Viewpoint and Chisanga Falls, 10° 32' 31"S, 33° 41' 07"E, 2000, *Koekemoer 1719* (PRE); Wovwe River catchment area, 2000, *Willis 162* (PRE).

Aspilias natalensis (Sond.) Wild

Wedelia natalensis Sond.

Straggling, branching, rhizomatous perennial herb, to 0.5 m high; leaves opposite, sessile or subsessile, to 120 × 30 mm; capitula solitary, up to 40 mm across the expanded rays; outer involucre herbaceous; inner involucre bracts papery; rays and disc yellow; flowering throughout the year. Widely distributed from D.R.C. and Tanzania through Zambia, Zimbabwe, and Mozambique to KwaZulu-Natal.

Source. Hilliard (1977: 306).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Aspilias pluriseta Schweinf. ❖

Aspilias asperifolia O.Hoffm.; *Aspilias vulgaris* N.E.Br.; *Aspilias brachyphylla* S.Moore

Perennial herb or subshrub, multi-branched, usually trailing with distal part erect, to 500 mm high; leaves (sub-) sessile, ovate or narrowly ovate, 20–50(80) × 8–20(35) mm; capitula terminal, solitary or up to 3 together; ray florets yellow or orange-yellow, 9–16, without styles, 10–15 mm long; in grassland, woodland, a pioneer of cultivation and ruderal sites, may be locally common. Uganda and Kenya southwards to South Africa.

Source. Patel (1999); *F.T.E.A. Compositae* (3) (unpublished ms.); Patel & Overton (2002).

Malawi. Nyika National Park, Jalawe Viewpoint, 10° 21' 44"S, 33° 47' 49"E, 2000, *Koekemoer 1872* (PRE); Fingira Rock, 2000, *Willis & Luhanga 241* (PRE).

Aster harveyanus Kuntze subsp. **nyikensis** W.Lippert

Perennial, 0.3–0.5 m high; leaves lanceolate, 50–100 × 7–15 mm, 3- to 5-nerved; peduncles 150–300 mm long; capitula radiate; rays 15–20 × 2–4 mm; disc florets 5–6 mm long; achenes densely hispid and glandular; pappus 6–7 mm long; in high mountain grassland and miombo. Zambia, Malawi, and Zimbabwe.

Source. Lippert (1973).

Malawi. Nyika, 1 mile from Zambia Rest House, 1967, *Pawek 1431* (SRGH).

Zambia. Nyika Plateau, 1967, *Richards* 22465a (K, M); 5 miles S.W. of Rest House, 1958, *Robson & Angus* 423 (K, SRGH).

Aster tansaniensis W.Lippert ✧

Perennial with several annual shoots 0.1–0.75 m high; leaves sessile, narrowly ovate to lanceolate, 10–75 × 3–17 mm, glandular with 3–5 longitudinal veins; capitula solitary or up to 4, 8–15 mm long; ray florets 15–25, ray white to pale pink or mauve, 10–16 × 2–3 mm; inner florets yellow, 2–5 mm long; a pyrophyte in regularly burned grassland. Tanzania, D.R.C., Zambia, and Malawi.

Source. Grau & Lippert: (1980: 13); *F.T.E.A. Compositae* (2): 470 (2002).

Malawi. Nyika Plateau, Lake Kaulime, ca 2,150 m, 1958, *Robson & Angus* 329 (BM, K, LISC, SRGH, PRE).

Zambia. Nyika Plateau, 1959, *Richards* 10426 (K).

Athrixia rosmarinifolia (Sch.Bip.) Oliv. & Hiern var. **foliosa** (S.Moore) Kroner ✧

Perennial herb or subshrub 0.2–1.2 m high with one to several stems, stems grey-tomentose and glandular; leaves sessile, lanceolate or linear, white-tomentose beneath, araneose-puberulous and glandular above, but glabrescent; capitula 6–10 mm long, solitary or in few-headed cymes; involucre pale green with dark tips; ray florets mauve, pink or purple, 8–23, ray elliptic, 3.5–7.5 × 1.2–1.6 mm; disc florets yellow or orange-yellow, 16–94; in montane grassland. Malawi and Zimbabwe.

Source. Patel (1999); Brummitt (1973); *F.T.E.A. Compositae* (2): 456 (2002); Patel & Overton (2002).

Malawi. Nyika National Park, W. foot of Nganda 1972, *Brummitt, Munthali & Syngé* 69 (K, MAL, SRGH, LISC, BR); along the road from Chelinda Camp to Chisanga Falls, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer* 1705 (PRE).

Athrixia subsimplex Brenan

Perennial woody herb 0.3–0.5 m high, hardly branched; stems grey-tomentose, densely leafy; leaves linear, 5–40 × 1–2 mm, sparsely pubescent or glabrous above, white-tomentose beneath; capitula 8–12 mm long, solitary or in a few-headed cymes; involucre with dark tips; ray florets mauve, 14–30, ray elliptic, 6–7 × 1.8–2.5 mm; disc florets orange-yellow, 60–80; in montane grassland. Malawi and Tanzania.

Source. *F.T.E.A. Compositae* (2): 456 (2002).

Malawi. Nyika Plateau, 1946, *Brass* 17311 (K, SRGH).

Berkheya bipinnatifida (Harv.) Roessler subsp. **echinopoides** (Baker) Roessler

Berkheya echinopoides Baker; *Stobaea bipinnatifida* Harv.;

Crocodylodes semineivum (DC.) Kuntze

Spinescent perennial herb 0.5–3 m high; leaves 50–300 × 30–180 mm, slightly to strongly dentate, lobes extending into spines 1–10 mm long; capitula homogenous and discoid, paniculately arranged; florets numerous, corollas white, ca 10 mm long; in escarpment miombo and chipya woodland, in high altitude and submontane grassland and in dambos, often on rocky hillsides, sometimes becoming weedy. Tanzania, D.R.C., Malawi, and Swaziland.

Source. *Flora zambesiaca* 6(1): 239 (1992).

Malawi. Nyika Plateau, 1896, *Whyte* 186 (K); Juniper Forest, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer* 1900 (PRE).

Berkheya echinacea (Harv.) O.Hoffm. ex Burt Davy subsp. **polyacantha** (Baker) Roessler

Berkheya polyacantha Baker; *Berkheya parvifolia* Baker

A perennial herb to 1.4 m high; stems winged; leaves crowded on the lower stem, sessile, 120–220 × 20–50 mm, sinuate-dentate to coarsely dentate, upper surface with brush-like spines 2–7 mm long; capitula radiate, solitary or few clustered terminally; florets yellow; rays 15 × 1.5–4 mm; disc florets yellow, ca 7 mm long; in submontane grassland, often in marshy places. Malawi, Zambia, Zimbabwe, and Tanzania.

Source. Brummitt (1973); *Flora zambesiaca* 6(1): 240 (1992).

Malawi. Nyika Plateau, 1946, *Brass* 17246 (K, MO); Chosi Viewpoint, 10° 36'S, 33° 45'E, 2000, *Phiri* 3535 (UZL); W. of Vithintha Hill, 2000, *Salubeni & Mwanyambo* 6751 (MAL); Jalawe Viewpoint, 10° 21' 44"S, 33° 47' 49"E, 2000, *Koekemoer* 1865 (PRE); Mpopoti Peak, 2000, *Willis & Luhanga* 100

(PRE).

Zambia. Nyika Plateau, Kaperekezi Road, 10° 34'S, 33° 42'E, 2000, *Phiri* 3847 (UZL).

Berkheya zeyheri (Sond. & Harv.) Oliv. & Hiern subsp. **zeyheri** ✧

Crocodylodes zeyheri (Sond. & Harv.) O.Kuntze; *Stobaea zeyheri* Sond.

& Harv.; *Berkheya insignis sensu* Brenan

A tufted perennial herb 0.1–0.9 m high; leaves sessile, 30–150 × 1–13 mm, linear or lanceolate, margins spinescent-denticulate, bristles 5–20 mm long; capitula radiate, solitary, terminal; rays yellow, mostly 15–20 × 1.5–4 mm; a pyrophyte of submontane and plateau grassland, miombo and *Uapaca* woodlands, in dambos, on rocky outcrops or in shallow stony soils. Malawi, Zambia, Zimbabwe, Mozambique, South Africa, and Swaziland.

Source. Patel (1999); *Flora zambesiaca* 6(1): 244 (1992); Roessler (1975: 81).

Zambia. Nyika Plateau, within 90 m of Government Rest House, 1955, *Lees* 49 (K, NDO).

No country given. 1967, *Richards* 22417 (UZL).

Bidens acuticaulis Sherff var. **acuticaulis** ✧

Bidens paupercula Sherff; *Bidens ciliata* B.Wild.

Annual herb to 1 m high, stem simple or branched; leaves pinnate or bipinnatifid, to 130 × 60 mm, segments 3–5; capitula solitary, terminal, peduncle to 150 mm long; ray florets 5–8, yellow, 6–7 mm long, upper part paler, 5- to 6-striate; disc florets yellow; in *Brachystegia* woodland and grassland. Tanzania, D.R.C., Angola, Zambia, Mozambique, and Malawi.

Source. *Kew Bulletin* 48(3): 492 (1994); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, Chisanga Falls and Kaperekezi Gate, 2000, *Salubeni & Mwanyambo* 6837 (MAL); path down to Chisanga Falls, 10° 32.9'S, 33° 40.9'E, 2000, *Burrows & Burrows* 6773 (PRE).

Bidens baumii (O.Hoffm.) Sherff

Coreopsis baumii O.Hoffm.; *Coreopsis scabrifolia* Sherff; *Bidens ruandensis* Sherff

Perennial herb, 0.6–1.3 m high, erect to decumbent, single-stemmed; leaves lanceolate to ovate 60–150 × 10–31 mm, simple or pinnately 3- to 7-lobed, surface hispid-ciliate, margins coarsely serrate-dentate with teeth callose; capitula terminal, solitary or few in lax cymes; ray florets yellow, 6–8, neuter, ray 15–18 × 7–8 mm; disc florets yellow, to 6 mm long; in grassland or scrub. Tanzania, D.R.C., Rwanda, Burundi, Angola, Malawi, and Zambia.

Source. *Kew Bulletin* 48(3): 460 (1994); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, without locality, 2000, *Mwanyambo* 522 (MAL).

Bidens biternata (Lour.) Merr. & Sherff

Bidens cylindrica Sherff; *Bidens paupercula* Sherff.

Annual herb, up to 1.5 m high; leaves once pinnate with (3)5–9 narrowly ovate leaflets, basal pair deeply divided into two asymmetric lobes; pappus awns 3 or 4(5); flowers yellow. Flowering February to May; in forest margins, short grassland, stream- and river-banks, among rocks on mountain slopes, roadsides, and margins of cultivation. Tropical and subtropical parts of Africa, S.W. Asia, E. Asia, and Australia.

Source. Retief & Herman (1997: 295); *Kew Bulletin* 48(3): 497 (1994).

Malawi. Nyika National Park, Jalawe Viewpoint, 10° 21' 44"S, 33° 47' 49"E, 2000, *Koekemoer* 1869 (PRE); Juniper Forest, near bridge, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer* 1887 (PRE); Fingira Rock, 2000, *Willis & Luhanga* 212 (PRE).

Bidens crocea Welw. ex O.Hoffm.

Bidens crocea var. *verrucifera* S.Moore

Perennial herb, up to 1 m high; stems single or several from a woody rootstock; leaves pinnatifid with 3–5 linear segments or bipinnatifid, up to 150 mm long; capitula solitary, broadly campanulate, 10–15 × 4–8 mm; ray florets golden yellow, 8, neuter; rays linear-oblong with 9 dark orange stripes, to 25 × 5 mm; disc florets yellow; in miombo woodland and grass-



Aster tansaniensis
Del. Sandie Burrows



Bidens acuticaulis var. *acuticaulis*
Del. Sandie Burrows



Berkheya zeyheri subsp. *zeyheri*
Del. Victoria Goaman



Athrixia rosmarinifolia var. *foliosa*
Del. Sandie Burrows

land. Tanzania, D.R.C., Angola, Malawi, and Zambia.

Source. *Kew Bulletin* 48(3): 463 (1994).

Malawi. Nyika National Park, Mwanda Mountain, 2000, *Willis* 188 (PRE); hill slope N. of Mwanda Mountain, 2000, *Willis & Luhanga* 179 (PRE).

Bidens diversa Sherff

Bidens filiformis Sherff

Annual herb, 0.3–0.5(1) m high; leaves pinnate to 10 mm long with a filiform rachis and 3–5 filiform segments to 50 mm long; capitula solitary, terminal, peduncle to 120 mm long; ray florets 8, yellow, 15–20 x 3–5 mm, striate; achenes black, narrowly ellipsoid, striate-sulcate and bristly, with 2 aristae 1 mm long; in woodland on rocky outcrops, gregarious elsewhere. Tanzania, Angola, Zambia, Malawi, and Mozambique.

Source. *Kew Bulletin* 48(3): 493 (1994); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, Runyina River, 10° 43'S, 33° 39'E, 2000, *Phiri* 3803 (UZL).

Zambia. Nyika Plateau, Kaperekezi Road, 10° 34'S, 33° 42'E, 2000, *Phiri* 3860 (UZL); Manyanjere Forest, 10° 35'S, 33° 39'E, 2000, *Phiri* 4055 (UZL).

Bidens kilimandscharica (O.Hoffm.) Sherff

Coreopsis kilimandscharica O.Hoffm.

Perennial herb, to 3 m high; leaves variable, up to 150 x 100 mm, upper leaves often simple and sessile, lower leaves pinnatipartite to bipinnatisect, pubescent on both surfaces; capitula solitary, 60–80 mm wide, several in compact corymbose cymes; ray florets 8–13, neuter, golden yellow, ray up to 40 x 11–15 mm, with 12 dark orange longitudinal striae; disc florets yellow, 2 mm long; on forest margins, woodland on rocky outcrops and mountain slopes. Uganda and Kenya to Angola, Malawi, and Mozambique.

Source. *Kew Bulletin* 48(3): 451 (1994).

Malawi. Nyika National Park, Chisimuka, 2001, without collecting details (Patel & Overton 2002).

Bidens lineariloba Oliv.

Bidens lineariloba Oliv. var. *deminita* Sherff

Annual herb, 0.6–1.5 m high, much branched; leaves irregularly 2-pinnatipartite, 40–160 x 20–90 mm, segments linear or lanceolate; capitula in lax terminal cymes, radiate, peduncle to 80 mm long; ray florets 6–8, yellow, ray 20–30 x 6–12 mm, striate; disc florets yellow or brown; on rocky grassland on mountain slopes, also in disturbed areas. Kenya, Uganda, Tanzania, D.R.C., and Burundi.

Source. Retief & Herman (1997: 295); *Kew Bulletin* 48(3): 476 (1994); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, between Viewpoint and Chisanga Falls, 10° 32' 31"S, 33° 41' 07"E, 2000, *Koekemoer* 1714 (PRE); Mwanda Mountain slope, 2000, *Willis* 189 (PRE).

Bidens ochracea (O.Hoffm.) Sherff

Coreopsis ochracea O.Hoffm.; *Coreopsis cosmophylla* Sherff; *Coreopsis ochraceoides* Sherff

Perennial herb to 1.5 m high, multi-stemmed; leaves pale green, ovate in outline, deeply pinnatipartite with 3–7 segments, 40–180 x 20–70 mm, leaf segments 1.5–7 mm wide; capitula 1–3, peduncles to 150 mm long; ray florets orange or golden yellow, 8–9, neuter, with 10 dark orange stripes; disc florets pale cream-yellow; on stony hillsides and open tall grassland. Tanzania, Malawi, and Zambia.

Source. *Kew Bulletin* 48(3): 465 (1994); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, without locality, 2000, *Mwanyambo* 521 (MAL).

***Bidens pilosa** L.

Bidens sundaica Blume; *Bidens leucantha* (L.) Willd.

Annual herb, up to 1.5 m high; leaves trifoliate or pinnately 5-foliate, leaflets narrowly ovate to ovate-oblong, margins crenate-serrate; pappus awns 2 or 3; flowers with rays creamy white or absent, disc yellow; roadside weed and noxious weed of cultivation. In most tropical and subtropical regions of the world; also extending into some temperate areas.

Source. *Kew Bulletin* 48(3): 500 (1994); Patel & Overton (2002).

Malawi. Nyika National Park, Juniper Forest next to the bridge, 10° 45' 06" S, 33° 53' 15" E, 2000, *Koekemoer* 1886 (PRE).

Bidens pinnatipartita (O.Hoffm.) Wild

Coreopsis pinnatipartita O.Hoffm.; *Coreopsis whytei* S.Moore

Robust branching perennial up to 3 m high; leaves petiolate, petiole up to 50 mm long, lamina up to 190 x 190 mm, pinnatipartite; capitula (1)–(3) crowded together on peduncles up to 30 mm long, up to 60 x 10 mm at anthesis; ray florets yellow, neuter, 6–12, ligule 25–30 x 5–7 mm; disc florets orange-yellow, to 8 mm long; in montane grassland with scattered shrubs, often along forest margins. Angola, Zambia, Malawi, Tanzania, and Mozambique.

Source. Dowsett-Lemaire (1985); Patel (1999); Wild (1967: 19); *Kew Bulletin* 48(3): 449 (1994); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika Plateau, 1946, *Brass* 17297 (K, SRGH).

Zambia. Nyika Plateau, 1952, *White* 2747 (K).

Bidens schimperi Sch.Bip.

Bidens schimperi Sch.Bip. var. *leptocera* Sherff; *Bidens schimperi* Sch.Bip.

var. *punctata* Sherff; *Bidens schimperi* Sch.Bip. var. *brachycera* Sherff;

Bidens schimperi Sch.Bip. var. *leiocera* Sherff

Annual herb to 1.5 m high; leaves broadly ovate in outline, petiolate, lamina 25–200(300) x 15–100(150) mm long, deeply 2- to 3-pinnatisect, lobes ovate; capitula erect or nodding, in lax corymbose cymes; ray florets 6–8, yellow or occasionally orange, ligule 6–20 mm long, 2–3-dentate or entire, with ca 10 darker longitudinal veins; in woodland and grassland; at times a ruderal weed of arable land. Ethiopia and Sudan southwards to Angola, Namibia, and South Africa.

Source. Wild (1967: 23); *Kew Bulletin* 48(3): 497 (1994); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika Plateau, 1903, *McClounie* 133 (K).

Bidens stephia (Steetz) Sherff

Coreopsis stephia Steetz

Annual herb 0.7–2 m high; leaves deltoid in outline, incised to bi- or tri-pinnatisect or pinnatifid, 25–350 x 20–260 mm, petiole absent or to 90 mm long; capitula terminal, solitary or in lax cymes; ray florets yellow or orange, 8–13, ray 25–35 x 5–12 mm, striate; in grassland, floodplain vegetation, bushy grassland, and woodland; weed of cultivation and roadsides. Cameroon and C.A.R. to Angola, Zambia, Malawi, Mozambique, and Zimbabwe.

Source. *Kew Bulletin* 48(3): 449 (1994); *F.T.E.A. Compositae* (3) (unpublished ms.); Patel & Overton (2002).

Malawi. Nyika National Park, Jalawe Viewpoint, 2000, *Thera* 3106 (MAL); E. of Thazima Gate, 2000, 10° 48'S, 33° 55'E, *Phiri* 3620 (UZL); between viewpoint and Chisanga Falls, 10° 32' 31"S, 33° 41' 07"E, 2000, *Koekemoer* 1713 (PRE); Fingira Rock, 2000, *Willis & Luhanga* 242 (PRE).

Blumea axillaris (Lam.) DC. ✧

Conyza axillaris Lam.; *Erigeron molle* D.Don; *Blumea mollis* (D.Don) Merril

Annual or occasionally perennial herb, 0.2–0.9 m high; whole plant viscid, sticky, and aromatic; leaves elliptic to obovate, 20–100(200) x 6–60 mm, margins dentate; capitula 4–8 mm long, in dense narrow panicles; florets pink, mauve or purple; in swampy sites, river-banks, and roadsides. Widespread in tropical and southern Africa; also on the Indian Ocean islands, tropical Asia, and Australia.

Source. Patel (1999); Brummitt (1973); *F.T.E.A. Compositae* (2): 319 (2002).

Malawi. Nyika National Park, by lower Mondwe River, 1972, *Brummitt & Syngae* 226 (K).

Bothriocline inyangana N.E.Br.

Erlangea rogersii S.Moore; *Erlangea inyangana* (N.E.Br.) Burtt;

Bothriocline longipes sensu Wild & G.V.Pope

Erect bushy perennial herb or suffrutescent 0.6–3 m high; leaves opposite, sometimes 3-whorled, 40–200 x 15–80 mm, elliptic to lanceolate; capitula small, numerous in corymbiform cymes; corollas mauve or purplish; in submontane, tall grassland, evergreen forest margins, stream banks at high



Blumea axillaris
Del. Sandie Burrows



Bothriocline longipes
Del. Eleanor Catherine



Brachythrix glomerata
Del. Eleanor Catherine



Carduus nyassanus
Del. Eleanor Catherine

altitudes, and in long grass in high-rainfall wooded grassland. Malawi, Zimbabwe, Mozambique, Tanzania, and D.R.C.

Source. Patel (1999); *Flora zambesiaca* 6(1): 168 (1992); Patel & Overton (2002).

Zambia. Nyika National Park, ca 0.5 km N.W. of Zambian Government Rest House, 1986, *Philcox, Pope & Chisumpa 9985* (BR, K, NDO).

Bothriocline laxa N.E.Br.

Erlangea laxa (N.E.Br.) S.Moore

Erect annual herb, 0.1–1.2 m high; leaves opposite, uppermost alternate, petiolate, lamina 30–130 x 10–55 mm, elliptic; capitula few to numerous, lax corymbiform cymes; corollas mauve or purplish; in miombo woodland, wooded grassland, submontane grassland, often as a weed of disturbed or cultivated ground and at roadsides. Zimbabwe, Malawi, Mozambique, Tanzania, D.R.C., Angola, and South Africa.

Source. *Flora zambesiaca* 6(1): 164 (1992).

Zambia. Nyika National Park, above Zambian Government Rest House, 1986, *Philcox, Pope & Chisumpa 10010* (BR, K, NDO, SRGH).

Bothriocline longipes (Oliv. & Hiern) N.E.Br. ✧

Bothriocline eupatorioides (Hutch. & Burt) Wild & G.V.Pope;

Bothriocline tomentosa (Oliv. & Hiern) Wild & G.V.Pope

Erect bushy suffrutescent herb with annual stems, up to 1.7 m high; leaves sessile, 50–140 x 20–70 mm, broadly elliptic to narrowly oblong-elliptic or lanceolate; capitula numerous, aggregated into corymbiform clusters; florets 40–120 per capitulum; corollas purple; in submontane grassland and with tall grasses at lower altitudes, in *Brachystegia* woodland, on hillsides, often on termittaria. Zambia, Mozambique, Tanzania, and D.R.C.

Source. Patel (1999); Dowsett-Lemaire (1985); *Flora zambesiaca* 6(1): 167 (1992); Patel & Overton (2002).

Malawi. Nyika National Park, between Chelinda Bridge and Dembo River Crossing, 10° 32' 38"S, 33° 50' 33"E, 2000, *Koekemoer 1742* (PRE).

Zambia. Nyika National Park, ca 0.5 km S. of Zambian Government Rest House, 2,260 m, 1986, *Philcox, Pope & Chisumpa 9958* (BR, K, NDO, SRGH).

Bothriocline pectinata (O.Hoffm.) Wild & G.V.Pope

Erlangea pectinata O.Hoffm.

Erect soft perennial herb to 2 m high, stems leafy; leaves alternate, subsessile, mostly 80–260 x 12–60 mm, narrowly elliptic-oblongate; capitula small, numerous, becoming laxly arranged on divaricate branches; corollas pale lilac fading whitish; in submontane evergreen forest understorey, in clearings, and on forest margins. Malawi and Tanzania.

Source. Dowsett-Lemaire (1985); Patel (1999); *Flora zambesiaca* 6(1): 169 (1992); Patel & Overton (2002).

Zambia. Nyika Plateau, without locality, 1966, *Fanshawe 9749* (K, M, NDO, SRGH).

Bothriocline ripensis (Hutch.) Wild & G.V.Pope

Volkensia ripensis Hutch.

Lax perennial herb to 1.5 m high or stems scrambling to 5 m long; leaves alternate, petioles to 10 mm long, lamina mostly 40–170 x 10–50 mm, narrowly to broadly cuneate; capitula small, numerous, laxly corymbiform cymes; corollas purplish mauve fading white; in swamp forest, gully forest, and submontane evergreen forest, usually beside streams. Malawi and Zambia; not known outside the *Flora zambesiaca* area.

Source. Dowsett-Lemaire (1985); Patel (1999); *Flora zambesiaca* 6(1): 169 (1992).

Malawi. Nyika National Park, Lonyina, 2001, without collecting details (Patel & Overton 2002: 31).

Bothriocline trifoliata (De Wild. & Muschl.) Wild & G.V.Pope

Erlangea trifoliata De Wild & Muschl.; *Erlangea mooreana* Alston;

Bothriocline mooreana (Alston) Wild & G.V.Pope

Erect perennial herb with annual stems 0.2–0.75(1) m high from small woody rootstock; leaves subsessile, patent, in whorls of three, 20–50 x 5–

20 mm; capitula small, few to numerous, corymbiformly cymose; corollas purple; pappus of few very caducous barbellate setae 1–2 mm long; in submontane short grassland, *Brachystegia* and *Uapaca* woodland, and high-rainfall miombo. Malawi, Zambia, Tanzania, D.R.C., and Angola.

Source. Patel (1999); *Flora zambesiaca* 6(1): 164 (1992); Patel & Overton (2002).

Malawi. Nyika Plateau, Chisanga Falls path from Nthalire Road, ca 1,900 m, 1982, *Brummitt, Polhill & Banda 16180* (BR, C, K, LISC, MAL, MO, SRGH, WAG); *ibid.* 2000, *Koekemoer 1715* (PRE); Fingira Rock, 2000, *Willis & Luhanga 238* (PRE).

Brachythrix glomerata (Mattf.) C.Jeffrey ✧

Ageratinastrum glomeratum Mattf.; *Brachythrix brevipapposa* subsp.

brevipapposa Wild & G.V.Pope

Erect perennial suffrutescent herb with annual stems, up to 1.7 m high; leaves subsessile, 50–140 x 20–70 mm, broadly elliptic to narrowly oblong-elliptic or lanceolate; capitula numerous, aggregated into corymbiform clusters; florets 40–120 per capitulum; corollas purple; in submontane grassland and with tall grasses at lower altitudes, in *Brachystegia* woodland, on hillsides, often on termittaria. Zambia, Mozambique, Tanzania, and D.R.C.

Source. *Flora zambesiaca* 6(1): 177 (1992); Patel & Overton (2002).

Malawi. Nyika National Park, Runyina River Bridge, 2000, *Willis 202* (PRE).

Brachythrix malawiensis (Wild & G.V.Pope) G.V.Pope

Brachythrix brevipapposa subsp. *malawiensis* Wild & G.V.Pope

Similar to *B. glomerata*, but the leaves narrowly oblong-elliptic, densely grey-felted on lower surface; phyllaries linear-lanceolate, subequal or outer phyllaries 5–7 mm long, mostly more than half as long as the involucre, their apices finely tapering, subulate; in submontane grassland and woodland. Known only from Nyika Plateau.

Source. Wild & Pope (1978: 28); *Flora zambesiaca* 6(1): 179 (1992).

Malawi. About 50 km from Rumphi on Chisenga Road, *Richards 14373* (K, holo., SRGH); Nyika Plateau, ca 6 km downstream from Lake Kaulime, 2,133 m, 1968, *Simon, Williamson & Ball 1754* (K, M, SRGH).

Brachythrix pawekiae Wild & G.V.Pope

Erect perennial herb 0.2–0.4 m high; stems purple; leaves mostly 30–90 x 4–13 mm, decreasing in size to stem apex and base, narrowly oblong-elliptic; capitula few to many in lax capitulum clusters; florets ca 70 per capitulum; corollas purple; in submontane short grassland. Known only from Nyika Plateau, but apparently fairly common there.

Source. Patel (1999); *Flora zambesiaca* 6(1): 179 (1992); Wild & Pope (1978: 29).

Malawi. Nyika Plateau, Chelinda Bridge, *Pawek 3385* (K, holo.); ca 2 km N. of Chosi Peak, 1986, *Philcox, Pope & Chisumpa 10018* (BR, GA, LISC, MAL, MO, NDO, SRGH); Chosi Viewpoint, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer 1683* (PRE); Mpopoti Peak, 2000, *Willis & Luhanga 75* (PRE); Nthakati Peak, 2000, *Willis, Patel & Luhanga 136* (PRE).

Brachythrix sonchoides Wild & G.V.Pope

Erect perennial suffrutescent herb with annual stems to 1.3 m high; leaves sessile, mostly 40–90 x 7–30 mm; capitula numerous, aggregate in dense subglobose; florets ca 20 per capitulum; corollas purple; in submontane grassland, evergreen forest margins, and stream bank vegetation. Known only from the Nyika Plateau.

Source. Patel (1999); *Flora zambesiaca* 6(1): 179 (1992); Wild & Pope (1978: 29); Patel & Overton (2002).

Malawi. Nyika Plateau, Chelinda Bridge, 1967, *Hilliard & Burt 4398* (E, holo., K); *ibid.*, 1966, *Lloyd Binns 230* (SRGH); between Chelinda and Dembo Rivers, ca 2,300 m, 1970, *Brummitt 10661* (FHO, K).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 2,133 m, 1952, *White 2756* (FHO, K); without locality, 1962, *Fanshawe 7320* (K, NDO).

Brachythrix stolzii (S.Moore) Wild & G.V.Pope

Muschleria stolzii S.Moore

Closely related to *B. pawekiae*, but distinguished by its subcapose habit with the largest leaves clustered on the lower stem, and by the outer pappus of free membranous scales. Reported in *Flora zambesiaca* as confined to

Tanzania only; this record should therefore be regarded with caution since we have no confirmed specimen available.

Source. Patel (1999); *Flora zambesiaca* 6(1): 180 (1992).

Malawi. Nyika National Park, Lonyina, 2001, without collecting details (Patel & Overton 2002: 31).

Carduus nyassanus (S.Moore) R.E.Fr. ✧

Carduus nyassanus (S.Moore) R.E.Fr. var. *ruandensis* R.E.Fr.; *Carduus leptacanthus* Fresen. var. *steudneri* Engl.; *Carduus leptacanthus* Fresen. var. *nyassanus* S.Moore

A spinose perennial herb to 1.5 m high; stems usually simple, densely leafy below, winged; basal leaves 100–330(500) × 20–65 mm, narrowly oblanceolate in outline, pinnately divided, margins coarsely dentate with teeth and apices strongly spine-tipped; capitula many, densely aggregated terminally; corollas white, reddish tinged or mauve, 10–13 mm long; on stream-sides and moist localities in montane grassland; flowering August–January. Central Africa northwards to Sudan, Nigeria, and Cameroon.

Source. UZL; Patel (1999); *Flora zambesiaca* 6(1): 51 (1992).

Malawi. Nyika Plateau, near Chelinda chalets, 1960, *Hilliard & Burt* 4449 (K, NDO, SRGH); at 2nd trout dam on Chelinda Bridge Road, 10° 35' 46"S, 33° 48' 25"E, 2000, *Koekemoer* 1797 (PRE); tributary of Wovwe River, 2000, *Willis* 159 (PRE).

Zambia. Nyika Plateau, without locality, 1962, *Fanshawe* 7316 (K, NDO, SRGH).

Chrysanthemoides monilifera (L.) Nordl. subsp. *septentrionalis* Nordl. ✧

Osteospermum moniliferum L.

Shrub 1–3 m high, densely branched, branches hairy when young, but usually soon glabrescent; leaves obovate to elliptic, up to 60 mm long and 30 mm wide, denticulate with teeth to 1 mm long; capitula 5–7 mm long, solitary or few together; ray florets 7–10, 9–13 × 2–4 mm, yellow; disc florets about 20, 5–6 mm long, yellow; drupes reddish purple to black, ellipsoid-obovoid, 5–7 × 2.5–4 mm; hillsides, grassland, montane forest margins. South Africa, Tanzania, Malawi, Mozambique, Zimbabwe, and South Africa.

Source. Patel & Overton (2002); *F.T.E.A. Compositae* (2): 535 (2002).

Malawi. Nyika National Park, access road near Juniper Forest, 2000, *Burrows & Burrows* 6916 (MAL, PRE, UZL).

Cineraria deltoidea Sond. ✧

Cineraria grandiflora Vatke; *Cineraria buchananii* S.Moore

Perennial herb, 0.1–3 m high, erect or more usually scandent or trailing; leaves deltoid in outline, 10–70 × 10–93 mm, base subtruncate to deeply cordate or emarginate; capitula often in copious terminal cymes; ray florets 4–14, yellow, rays 4–14 × 1.5–3.5 mm; achenes dark-coloured, 2–3.5 mm long, outer compressed and slightly winged, inner 3-angled, shortly ciliate or glabrous; pappus 3–6 mm long; on forest margins; flowering in June. Ethiopia and Sudan southwards to South Africa.

Source. Hilliard (1977: 379); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, Southern Circular route at Chelinda bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer* 1778 (PRE); *ibid.*, 2000, *Koekemoer* 1807 (PRE); road to Domwe, 2000, *Winter* 4088 (PRE).

Cirsium buchwaldii O.Hoffm. ✧

thistle

Robust spiny, stiffly erect, rhizomatous perennial up to 2 m; sparingly branched above; capitula 3–10 in loose apical arrangement, ca 13–20 mm long, discoid; florets white to pinkish blue; basal leaves and rhizomes seldom represented on herbarium specimens; common in marshy situations in montane grassland. Malawi, Tanzania, Uganda, Rwanda, Kenya, and Sudan.

Source. Patel (1999); Brummitt (1973); *Flora zambesiaca* 6(1): 51 (1992).

Malawi. Nyika National Park, E. foot of Nganda, 1972, *Brummitt & Synge* 110 (K, MAL, SRGH); below Sangule Kopje, 7 km S.W. of Chelinda Camp, 2,255 m, 1970, *Brummitt* 10770 (K, SRGH); Luselo River, 2000, *Salubeni & Mwanyambo* 6803 (MAL).

Conyza aegyptiaca (L.) Aiton

Erigeron aegyptiacus L.; *Conyza transvaalensis* Bremek.

Annual or biennial herb 0.3–1.5 m high, slightly viscid and aromatic; leaves mostly cauline, sessile, lanceolate to spatulate, 20–120 × 5–50 mm, cut to midrib in at least lower half; capitula 5–10 mm long in rather lax leafy corymbs or panicles, densely hairy and glandular; florets pale yellow or cream, marginal florets >100, tube 1.5–2 mm long; central florets few, tube 2.2–3 mm; a weed of cultivation and gardens, on margins of forests and bush clumps. Widespread in Africa, also in tropical Asia and Australia.

Source. Patel (1999); Retief & Herman (1997: 300); Wild (1975: 51); *F.T.E.A. Compositae* (2): 496 (2002).

Malawi. Nyika Plateau, Chelinda Dam, 1967, *Hilliard & Burt* 4444 (E, K); between Chelinda Bridge and Dembo River crossing, 10° 32' 09"S, 33° 51' 17"E, 2000, *Koekemoer* 1753 (PRE).

Zambia. Nyika, without locality, 1962, *Fanshawe* 7251 (K, M).

***Conyza albida** Willd. ✧

Erigeron sumatrensis Retz.; *Erigeron floribundus* (Kunth) Sch.Bip.;

Conyza floribunda Kunth; *Conyza sumatrensis* (Retz.) E.Walker

The name *C. albida* is recognized in PRE (following Danin, *South African Journal of Botany* 56: 412–413 (1990), and Guedes and Jovet, *Taxon* 24: 393–394 (1975). However, the name is not recognized in *F.T.E.A. Compositae* Part 2 although all the above synonyms are treated as synonyms of *C. bonariensis*. *C. albida* is regarded as intermediate between *C. bonariensis* and *C. canadensis*. It is an annual or biennial herb to 0.2(–0.3) m high; leaves lanceolate to oblong-ovate, with long and short hairs; flowers tubular; receptacle alveolate. It is a common, widespread weed along roadsides and in disturbed areas. Although this species has not yet been recorded for Malawi, the voucher specimen best matches the concept of *C. albida* in PRE.

Source. Danin (1990).

Malawi. Nyika Plateau, Juniper Forest Reserve in disturbed area of car park, 10° 45.05'S, 33° 53.12'E, 2000, *Burrows & Burrows* 6927 (PRE).

***Conyza bonariensis** (L.) Cronquist

Erigeron bonariensis L.; *Erigeron sumatrensis* Retz.; *Conyza floribunda*

Kunth; *Erigeron floribundus* (Kunth) Sch.Bip.; *Conyza sumatrensis*

(Retz.) E.Walker; *Conyza sumatrensis* (Retz.) E.Walker var. *floribunda*

(Kunth) J.B.Marshall

Annual herb to 0.4–1.5 m high; leaves pale grey-green, sessile, linear to narrowly lanceolate, 25–150 × 2–30 mm; capitula 4–8 mm long, grouped in terminal lax panicles of 10 or more cymes; marginal florets whitish or cream with pink or purple tips, 60 to several hundred, ray erect, 0.4–0.6 mm long; central florets white to yellow, tube 2.8–3.5 mm long; in grasslands, roadsides, disturbed areas or fallow land. Worldwide weed in the tropics.

Source. Wild (1975: 43); *F.T.E.A. Compositae* (2): 506 (2002).

Malawi. Nyika National Park, Southern Circular Route to Chelinda Bridge, 10° 37' 17"S, 33° 48' 15"E, 2000, *Koekemoer* 1799 (PRE).

Conyza limosa O.Hoffm.

Erigeron mildbraedii Muschl.; *Conyza mildbraedii* (Muschl.) Robyns

Erect herb 0.3–1.2 m high; basal leaves elliptic to oblanceolate, 120–450 × 15–80 mm, pseudopetiole 60–140 mm long; cauline leaves lanceolate to panduriform, 15–120 × 5–25 mm, pseudopetiole to 60 mm long; capitula 6–10 mm long, few together in cymes which unite in a lax corymb; in open grassland, valleys, swampy areas, and in cultivated land. Kenya westwards to Nigeria and southwards to Angola and Zimbabwe.

Source. Patel (1999); *F.T.E.A. Compositae* (2): 508 (2002).

Malawi. Nyika National Park, 5 km S. of Chelinda, 1983, *De Kruif* 1324 (PRE); Domwe, 2000, *Winter* 4101 (PRE).

Zambia. Nyika Plateau, 1959, *Richards* 10427 (K, LISC).

Conyza pyrrhopappa Sch.Bip. ex A.Rich.

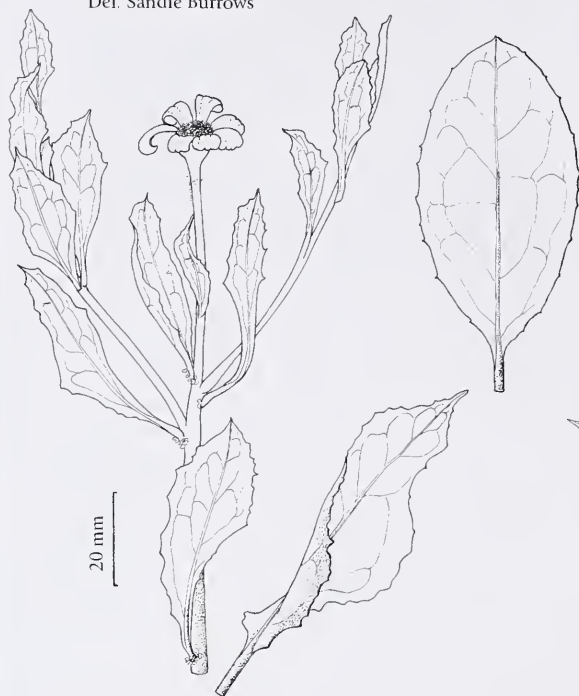
Erigeron pyrrhopappus (A.Rich.) Sch.Bip.; *Pluchea crenata* Quezel;

Microglossa oblongifolia O.Hoffm.; *Psiadia hendersoniana* S.Moore

Coarse, erect aromatic perennial herb or subshrub to 2 m high, densely hairy, rarely somewhat scabrid; leaves sessile or pseudopetiolate, elliptical or lanceolate, 20–90 × 3–30 mm; inflorescences in terminal clusters 40–190(–230) mm wide; florets sweet-scented; marginal florets 30–40, pale yellow or white, ray linear to narrowly elliptic, 0.6–3.5 mm long; disc florets yellow, 5–17; a variable and widespread species of grassland and wood-

Chrysanthemoides monilifera subsp. *septentrionalis*

Del. Sandie Burrows



Cineraria deltoidea

Del. Sandie Burrows



Cirsium buchwaldii

Del. Eleanor Catherine



Conyza albida

Del. Sandie Burrows

land in higher rainfall areas, often in moist localities. From Nigeria to Sudan and Egypt, and southwards to Angola, Zambia, and Malawi.

Source. Wild (1975: 47); *F.T.E.A.* Compositae (2): 499 (2002).

Malawi. Nyika Plateau, 1903, *Henderson* s.n. (BM).

***Conyza steudelii* Sch.Bip. ex A.Rich.**

Erigeron steudelii (A.Rich.) Sch.Bip.; *Conyza volkensii* O.Hoffm.;

Marsea celebica S.Moore

Annual or biennial herb, 0.3–2 m high, stems erect or scandent, pubescent and glandular; leaves pale green, spatulate, 15–140 x 5–60 mm, with a winged pseudopetiole; capitula 3–7 mm long, up to 15 together to form a cymose panicle; florets whitish, cream or pale yellow; marginal florets >100, the tube 0.7–1.5 mm long; central florets 6–9, tube 2.1–2.7 mm long; a weed of cultivation, also in grassland, woodland, and forest margins. Yemen, Ethiopia, and Sudan to Cameroon, Zambia, and Malawi.

Source. *F.T.E.A.* Compositae (2): 495 (2002).

Zambia. Nyika, without locality, 1962, *Fanshawe* 7281 (K).

***Conyza stricta* Willd.**

Conyza macrorrhiza A.Rich.; *Conyza vatkeana* Oliv. & Hiern; *Conyza stricta* Willd. var. *pinnatifida* (D.Don) Kitam

Erect annual or short-lived perennial herb, 0.3–1.1 m high; leaves oblanceolate to spatulate, 10–50 x 2–15 mm, scabrid and glandular on both surfaces; inflorescence of subglobose dense cymes ca 10–30 mm diameter; capitula 2–4 mm long; florets yellow; marginal florets 46–60; central florets 2–8, tube 1.4–2 mm long; a variable weed in montane grassland, often in rocky sites, a pioneer on roadsides and in disturbed land. Throughout tropical Africa from Somalia to Mozambique, also in Madagascar, India, Nepal, Arabia, and China.

Source. Patel (1999); Wild (1975: 41); UZL; *F.T.E.A.* Compositae (2): 500 (2002).

Malawi. Nyika Plateau, Chelinda Bridge, 1977, *Pawek* 13187 (PRE); Southern Circular Route to Chelinda Bridge, 10° 37' 17"S, 33° 48' 15"E, 2000, *Koekemoer* 1800 (PRE).

***Conyza subscaposa* O.Hoffm.**

Herb from a perennial rootstock with a basal leaf rosette and a single stem with 1–3 cauline leaves; basal leaves shiny, ovate to slightly spatulate, 30–260 x 8–50 mm; capitula 7–12 mm long, several together in dense cymes; florets pale yellow, marginal florets many; central florets >20, tube 3.2–4 mm long; high mountain grassland, usually on rocky sites. Ethiopia to Nigeria, Cameroon, Angola, Mozambique, and Zimbabwe.

Source. Patel (1999); *F.T.E.A.* Compositae (2): 510 (2002).

Malawi. Nyika Plateau, on road 10 km from Kasaramba Viewpoint, *Philippia*–*Kotschy* shrub-covered hillside, 2,440 m, 1970, *Brummitt* 11877 (PRE).

***Conyza tigrensis* Oliv. & Hiern**

Conyza variegata Sch.Bip. var. *pratensis* Vatke; *Conyza variegata* Sch.Bip. var. *silvestris* Vatke

Erect perennial herb 0.3–1.3 m high, stems 1–3 from the rootstock, hairy; leaves sessile, spatulate to narrowly ovate, 20–150 x 6–35 mm, sparsely hispid on both surfaces; inflorescence of fairly dense cymes, terminal or axile in the upper bracts, cymes 15–40 mm diameter, composed of many capitula; capitula broadly funnel-shaped, 5–7 mm long; florets cream or yellow, marginal florets many; in montane grassland, forest margins, roadsides, and abandoned land. Ethiopia and Kenya to Zambia and Malawi.

Source. Patel (1999); Wild (1975: 59); *F.T.E.A.* Compositae (2): 497 (2002).

Malawi. Nyika Plateau, Kasambara, 1967, *Salubeni* 725 (K, M, SRGH); Southern Circular Route to Chelinda Bridge, 10° 37' 17"S, 33° 48' 15"E, 2000, *Koekemoer* 1798 (PRE).

Zambia. Nyika, without locality, 1962, *Fanshawe* 7315 (K, SRGH).

***Conyza welwitschii* (S.Moore) Wild**

Nidorella welwitschii S.Moore

Perennial herb 0.4–2 m high; leaves sessile, linear to lanceolate, 8–50 x 1–14 mm, arachnoid-pubescent; capitula 4–6 mm long, several together in lax cymes, which unite into a terminal corymb; marginal ray florets yellow

to yellowish green, 40–42, tube 1.2–2 mm long, ray 22–3.3 x 0.5–0.7 mm; central florets yellow, 10–15, tube 2.3–2.8 mm; common in swampy and submontane grassland. Tanzania, D.R.C., Angola, Zambia, Malawi, Mozambique, and Zimbabwe.

Source. Patel (1999); Wild (1975: 45); *F.T.E.A.* Compositae (2): 504 (2002).

Malawi. Nyika Plateau, 1967, *Hilliard & Burt* 4395 (E, MO); Southern Circular Route at Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer* 1776 (PRE).

Zambia. Nyika, without locality, *Fanshawe* 8349 (NDO, SRGH).

***Crassocephalum crepidioides* (Benth.) S.Moore**

Gynura crepidioides Benth.; *Crassocephalum diversifolium* Hiern

Annual erect herb up to 1.2 m high; leaves sessile, obovate, broadly elliptic, rhombic or ovate, entire or with 1–8 lobes at base, 50–260 x 20–100 mm, margins sinuate-serrate; capitula few to numerous in dense or lax terminal corymbs, discoid, drooping at anthesis; florets orange-red or brick-red, corolla 7–12 mm long; on forest margins, moist sites along rivers and lakes, a common weed of disturbed places and cultivation. W. Africa, Ethiopia and S. to South Africa; naturalised in large parts of tropical Asia and the Pacific.

Source. Retief & Herman (1997: 302); *F.T.E.A.* Compositae (3) (unpublished ms.).

Malawi. Nyika National Park, South Circular Route, 10° 39' 54"S, 33° 45' 06"E, 2000, *Koekemoer* 1839 (PRE).

***Crassocephalum montuosum* (S.Moore) Milne-Redh. ✧**

Senecio montuosus S.Moore; *Crassocephalum afromontanum* R.E.Fr.

Annual or short-lived perennial herb or soft-wooded shrub, erect or sometimes semi-scandent, 0.2–2.4 m high; leaves sessile, ovate, lanceolate, elliptic or obovate, unlobed or 2–8 lobed, 55–410 x 15–220 mm; capitula numerous in congested terminal corymbs, discoid; florets yellow or sometimes orange, corolla 5.5–9.5 mm long; achenes 1.7–2.5 mm long, ribbed, sparsely hairy; pappus 5–10 mm long; in moist and evergreen forest margins. From Nigeria to Ethiopia and S. to Angola and Zimbabwe; also in Madagascar.

Source. *F.T.E.A.* Compositae (3) (unpublished ms.).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Crassocephalum picridifolium* (DC.) S.Moore**

Senecio picridifolius DC.; *Senecio acutidentatus* A.Rich.; *Senecio*

papaverifolius A.Rich.; *Gynura picridifolia* (DC.) Burt Davy

Perennial herb 0.3–1.2 m high or scrambling; leaves narrowly to broadly lanceolate, sessile or cuneate to attenuate into a usually auriculate petioloid base, margins coarsely toothed; capitula 1–5, terminal, lax, discoid; flowers bright golden-yellow or orange, corolla 7.2–11.5 mm long; in marshy places, swamps or swampy grassland, may be locally common or even mat-forming. Widespread throughout tropical Africa.

Source. Mill (1979); Retief & Herman (1997: 302); *F.T.E.A.* Compositae (3) (unpublished ms.).

Malawi. Nyika National Park, Kaulime River N. of Lake Kaulime, 2000, *Willis & Luhanga* 123 (PRE).

Crassocephalum rubens* (Jacq.) S.Moore var. *rubens

Senecio rubens Jacq.; *Senecio cernuus* L.f.; *Gynura cernua* (L.f.) Benth.;

Gynura rubens (Jacq.) Muschl.

Annual herb 0.2–1.5 m high, erect; leaves often narrowly and deeply 2- to 8-lobed; capitula 1–4, broadly cylindrical, 9.5–13 mm long; disc florets blue, purple, mauve, magenta, pink or red; in grassland or swampy to muddy sites, usually in disturbed soil; a weed in disturbed areas. Widespread in the warmer parts of Africa from W. Africa to Ethiopia and South Africa (KwaZulu-Natal); also on Madagascar and Réunion.

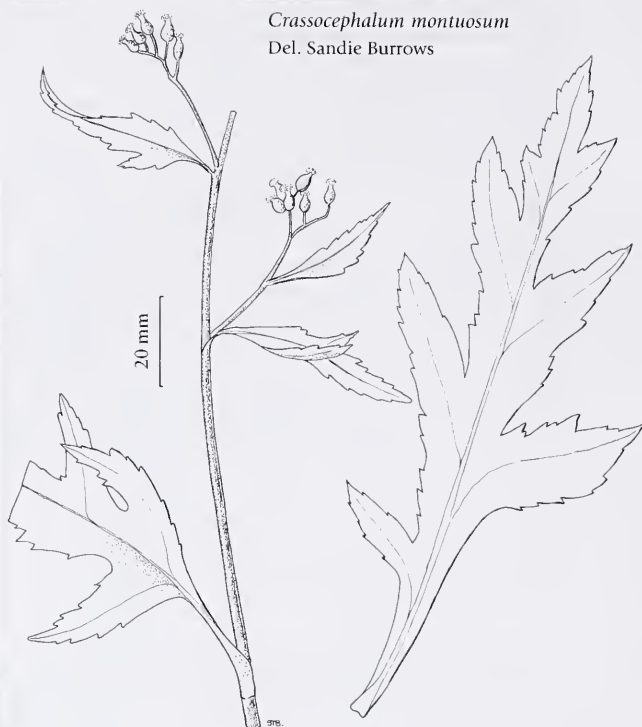
Source. Hilliard (1977); *F.T.E.A.* Compositae (3) (unpublished ms.).

Malawi. Nyika National Park, without localities or collecting details (Mill 1979, Patel 1999).

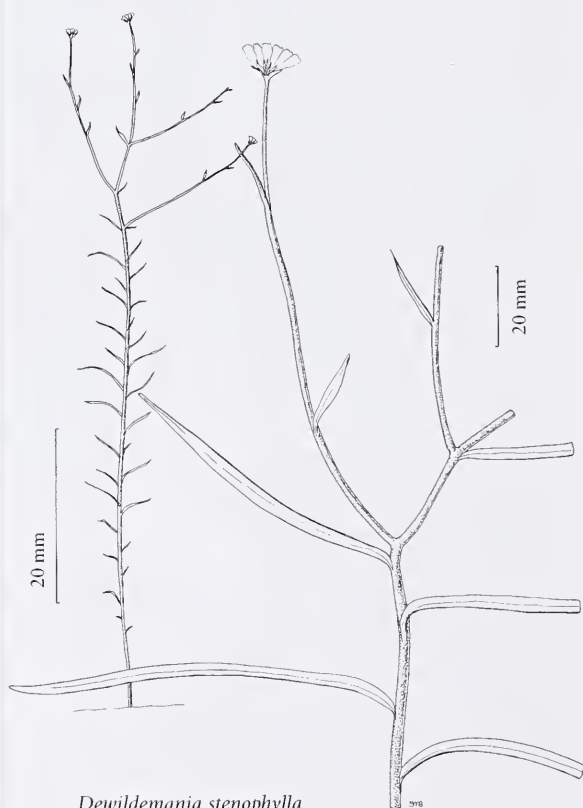
***Crassocephalum rubens* (Jacq.) S.Moore var. *sarcobasis* (DC.) C.Jeffrey & Beentje**

Gynura sarcobasis DC.; *Crassocephalum sarcobasis* (DC.) S.Moore

Crassocephalum montuosum
Del. Sandie Burrows



Crepis newii subsp. *newii*
Del. Eleanor Catherine



Dewildemanian stenophylla
Del. Sandie Burrows



Dichrocephala chrysanthemifolia var. *chrysanthemifolia*
Del. Sandie Burrows

Leaves usually rather broadly 2–8-lobed; capitula 1–12; involucre cylindrical, 8–12 mm long; disc florets purple, mauve, magenta or pink, very rarely blue.

Source. Patel (1999); Mill (1979); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, Chelinda Bridge, 2000, *Salubeni & Mwanyambo* 6777 (MAL); between viewpoint and Chisanga Falls, 10° 32' 31"S, 33° 41' 07"E, 2000, *Koekemoer* 1726 (PRE); Southern Circular route at Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer* 1779 (PRE).

Crassocephalum uvens (Hiern) S.Moore

Senecio uvens Hiern; *Senecio telmatophyllus* O.Hoffm.; *Senecio kimbilensis* Mattf.

Perennial herb with short rhizome, lower part of stem creeping, but becoming erect and 0.2–0.65 m high; leaves sessile, oblanceolate, 10–70 x 2–12 mm, attenuate to an exauriculate base; capitula solitary, long-stalked; disc florets orange-yellow or orange, corolla 7.5–11 mm long; achenes 3–4 mm long, glabrous; pappus 6.5–10 mm long; in marshy or riverine grassland. Tanzania, D.R.C., Angola, Zambia, Malawi, and Zimbabwe.

Source. *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Crassocephalum vitellinum (Benth.) S.Moore

Gynura vitellina Benth.; *Gynura aurantiaca* Benth.

Annual or perennial herb 0.3–1.5(–3.5) mm; leaves sessile, ovate to broadly ovate, elliptic or obovate, 30–125 x 15–70 mm, margins sinuate-serrate; capitula solitary or up to 3, discoid, long-stalked; florets orange or orange-yellow; achenes 2 mm long, ribbed, shortly hairy; pappus 6–9 mm long; on forest margins and clearings, grassland, and bush land, occasionally in swamps. Kenya, Uganda, Tanzania, Nigeria, Cameroon, Bioko, D.R.C., Rwanda, Burundi, and Zambia.

Source. Brummitt (1973); Mill (1979); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Sygne* 159 (K, MAL, SRGH, LISC, EA); at 2nd trout dam on the way to Chelinda Bridge, 10° 35' 46"S, 33° 48' 25"E, 2000, *Koekemoer* 1793 (PRE); wall of trout dam near Chelinda Camp, 10° 35' 20"S, 33° 48' 41"E, 2000, *Koekemoer* 1696 (PRE).

Crepis hypochaeridea (DC.) Thell.

Anisoramphus hypochaerideus DC.; *Crepis chirindica* S.Moore

An erect perennial herb up to 0.5 m high, flowering stalks one to several; leaves numerous, mostly radical in a rosette, up to 100 x 15 mm; capitula solitary; corollas yellow, ligules strap-shaped; pappus of barbellate setae; a pyrophyte of open often seasonally water-logged grassland, or miombo woodland; flowering July to December. Malawi, Zambia, Zimbabwe, Nigeria, Cameroon, D.R.C., Angola, Tanzania, and South Africa.

Source. Mill (1979); *Flora zambesiaca* 6(1): 210 (1992); Patel & Overton (2002).

Malawi. Nyika Plateau, Kasaramba Road, ca 1 km from Viewpoint, 2,400 m, 1977, *Pawek* 12452B (K, MO, MAL); Juniper Forest, along fire break, 10° 45' 06"S, 33° 53' 15"E, 2000, *Koekemoer* 1881 (PRE).

Crepis newii Oliv. & Hiern. subsp. **newii** ✧

Crepis surymertonii S.Moore

An erect perennial herb, to 0.9 m high; flowering stalks often solitary, branching above; leaves mostly radical in a rosette, 100–360 x 20–60 mm, oblanceolate-spathulate; capitula erect, few to many in corymbose clusters, stalks 3–40 mm long; corollas yellow, ligule 10 x 2.5 mm; achenes brown, ripening to a bright orange-red, 4.5–7 x 0.5–0.75 mm, tapering above; pappus of numerous barbellate setae, to 6 mm long; in montane grassland and on forest margins. Zimbabwe and N. Mozambique to Kenya and Uganda.

Source. Brummitt (2002); *Flora zambesiaca* 6(1): 210 (1992).

Malawi. Nyika National Park, on road to Juniper Forest, 10° 41' 44"S, 33° 57' 09"E, 2000, *Koekemoer* 1899 (PRE).

Dewildemanian stenophylla (Baker) B.L.Burt ✧

Athrixia stenophylla Baker; *Erlangea filifolia* De Wild. & Muschl.

A slender erect perennial herb to 0.75 m high from a small woody rootstock with annual stems; leaves spirally arranged, 1.5–4.5 mm long, upper leaves decreasing in size; capitula many, solitary; corollas purple; outer pappus 10–15 brownish purple scales; inner of paleaceous setae fewer and slightly exceeding outer scales; in *Brachystegia* woodland, usually on rocky hillsides. Zambia, Malawi, and Tanzania.

Source. *Flora zambesiaca* 6(1): 185 (1992).

Malawi. Nyika Plateau, 1896, *Whyte* 219 (K).

Dichrocephala chrysanthemifolia (Blume) DC. var. **chrysanthemifolia** ✧

Cotula chrysanthemifolia (Blume) DC.; *Dichrocephala abyssinica*

A.Rich.; *Dichrocephala chrysanthemifolia* (Blume) DC. var.

macrocephala Asch.

Annual or perennial, straggling or sub-erect herb 0.2–0.9(–1.5) m high, aromatic; leaves 15–100 x 5–35 mm, oblong or oblong-obovate, incised-lyrate with 2–3 lobes, hairy to hispid on both surfaces; capitula 8 mm long, in lax terminal panicles; florets numerous, outer florets white to yellowish, 0.2–0.4 mm long, inner florets 0.7–0.8 mm long; in high-rainfall high altitude areas, grassland, ruderal vegetation, forest margins. Widespread in tropical Africa; also in Arabia, India, Indonesia, the Philippines, and New Guinea.

Source. Wild (1975: 9); *F.T.E.A. Compositae* (2): 459 (2002).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Dichrocephala integrifolia (L.f.) Kuntze subsp. **integrifolia**

Hippia integrifolia L.f.; *Grangea latifolia* Lam.; *Dichrocephala latifolia* (Lam.) DC.

Annual herb 0.1–1 m high, erect or procumbent, aromatic; stems thinly hairy; leaves pale green, paler beneath, ovate, 10–120 x 6–80 mm; capitula 2–5 mm long, in lax leafy compound panicles; involucre spreading or reflexed; outer florets many, white, corolla 0.5–0.8 mm long, minutely 2–3-dentate, with few glands outside near the base; inner florets fewer than outer, white or pale yellow, 0.5–0.7 mm long with 3–4 lobes; a weedy annual of high altitude areas, in forest clearings and forest edges, often in moist situations. Widespread in tropical Africa from South Africa to Ethiopia; also in southern Europe, Madagascar, India, and Asia.

Source. Wild (1975: 7); *F.T.E.A. Compositae* (2): 459 (2002).

Zambia. Nyika Plateau, 1959, *Robinson* 3004 (K, M, PRE, SRGH).

Dicoma anomala Sond. subsp. **anomala** ✧

Dicoma nyikensis Baker [Type: Nyika Plateau, 1896, *Whyte* s.n. (K,

holo.); *Dicoma anomala* var. *sonderi* Harv.; *Dicoma cirsioides* Harv.

Decumbent, tuberous rootstock, stems annual; leaves linear-elliptic, 25–110 x 6 mm, gland-pitted and glabrous above, hairy below; capitula solitary, terminal, 18–30 x (15)20–35 mm; bracts 90–200, dark red around midrib, margins sharply serrulate; florets 20–90+, purplish-mauve or white; pappus copious, barbellate; on hillsides, flat montane grassland or savanna. Burundi to South Africa.

Source. Brummitt (1973); *Flora zambesiaca* 6(1): 37 (1992).

Malawi. Nyika Plateau, near Chelinda Bridge, 1986, *Philcox, Pope & Chisumpa* 10025 (BR, K, LISC, MO, NDO, SRGH); Kawozya summit, 1972, *Brummitt & Sygne* 201 (K, MAL, SRGH, EA); road between Nganda and Jalawe Viewpoint, 10° 26' 42"E, 33° 47' 53"E, 2000, *Koekemoer* 1852 (PRE); path to Chisanga Falls, 2000, *Burrows & Burrows* 6776 (PRE).

Dicoma plantaginifolia O.Hoffm.

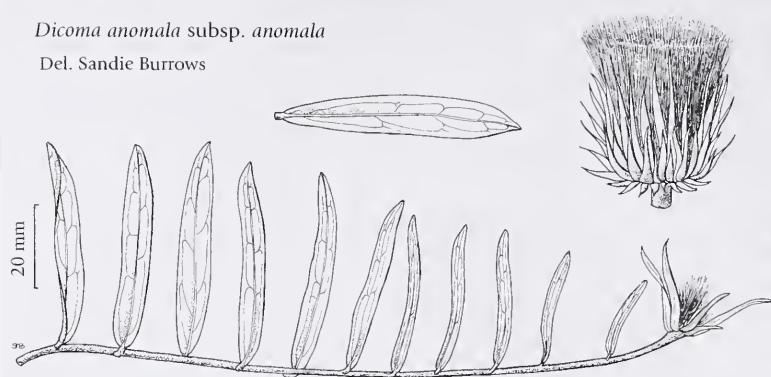
Dicoma pygmaea Hutch.; *Macleodium plantaginifolium* (O.Hoffm.)

S.Ortiz

Perennial herb from a woody rootstock; to 50 mm high, simple or with a few short branches; leaves few to numerous, prostrate, discolorous, 60–200 x 15–120 mm, oblong-elliptic, margins sparsely denticulate or serrulate, upper surface green and glabrous, lower surface white araneose, strongly 5(–7)-nerved from the base; capitula subsessile, 1–7, solitary or densely clustered in the leaf rosette; involucre mostly 25–36 x 20–50 mm; corollas creamy to brownish, usually with purplish lobes, 10–13 mm long; a pyrophyte of miombo woodland and submontane grassland. Zambia, Malawi, Tanzania, D.R.C., Burundi, and Angola.

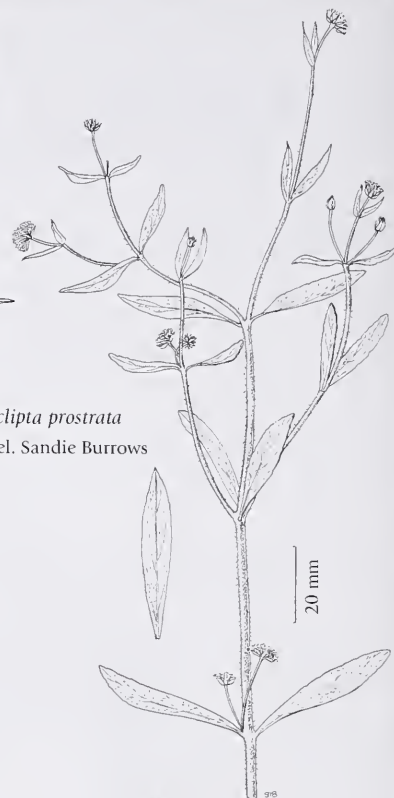
Dicoma anomala subsp. *anomala*

Del. Sandie Burrows



Eclipta prostrata

Del. Sandie Burrows



Elephantopus scaber subsp. *plurisetus*

Del. Margaret Tebbs

Erigeron karvinskianus

Del. Sandie Burrows



Emilia integrifolia

Del. Sandie Burrows

Source. *Flora zambesiaca* 6(1): 34 (1992).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Dicoma sessiliflora Harv.

Slender erect perennial to 1 m high from a woody rootstock; stems annual, usually solitary, with largest leaves somewhat clustered on the lower stem; leaves discolorous, sessile, 120–270 × (15–)20–60 mm; capitula few to numerous, spike-like, 1–2 sessile in upper leaf axils; involucre mostly 20–30 × 16–30 mm; phyllaries numerous, stiffly chartaceous, 6–30 mm long, long-pungent acuminate above; corollas yellowish, ca 10 mm long; in miombo and mixed deciduous woodland, as well as wooded grasslands. Widespread in tropical Africa.

Source. Brummitt (1973); Wild (1972: 184); Mill (1979); Patel & Overton (2002).

Malawi. Nyika Plateau, Panda Peaks, 1903, *McClounie* 19 (K); S. slopes of Kawozya, 1972, *Brummitt & Syngae* 176 (K, MAL, SRGH, EA, BR).

***Eclipta prostrata** (L.) L. ❖

Verbesina prostrata L.; *Verbesina alba* L.; *Eclipta alba* (L.) Hassk.

Erect or decumbent annual or biennial herb to 0.9 m high, sometimes scrambling or mat-forming; leaves shortly petiolate, leaves narrowly elliptic or elliptic, 20–120 × 3–30 mm, base tapering, margin serrate or serrate-crenate; capitula hemispheric, stalked, up to 12 mm diameter; ray florets inconspicuous, white, lamina ca 2 mm long; disc florets white; occurring naturally around pans and flood plains, preferring damp or swampy situations, often a weed of irrigation schemes. A cosmopolitan weed of the warmer regions of the world.

Source. Wild (1967: 59).

Malawi. Nyika, 1903, *McClounie* 55 (K).

Elephantopus scaber L. subsp. **plurisetus** (O.Hoffm.)

Phillipson var. **plurisetus** O.Hoffm. ❖

Elephantopus welwitschii Hiern

Plants not robust, to 1.3 m high; basal leaves 70–620 × 15–100 mm, cauline leaves smaller; capitula solitary, glomerules 15–20 mm diameter; corollas mauve; pappus 7–10, overlapping scale-like below gradually tapering into subterete barbellate seta, 3.5–6 mm long; in miombo woodland and wooded grassland, often on rocky hillsides. Malawi, Zambia, Zimbabwe, Mozambique, Tanzania, D.R.C., and Angola.

Source. Patel (1999); Mill (1979); *Flora zambesiaca* 6(1): 188 (1992); Patel & Overton (2002).

Malawi. Nyika National Park, 43 km from Kagaza Gate on Nyika–Chisenga Road, 1,600 m, 1986, *Philcox, Pope & Chisumpa* 10049 (BR, K, MAL, NDO); W. of Vithintha Hill, 2000, *Izidine* 29 (LMA); path between viewpoint and Chisanga Falls, 10° 32' 31"S, 33° 41' 07"E, 2000, *Koekemoer* 1711 (PRE).

Emilia coccinea (Sims) G.Don

Emilia flammea sensu auctt., non Cass.; *Emilia sagittata* sensu auctt.

Annual herb, 0.15–1.2 m high; leaves spatulate, ovate or elliptic, 12–195 × 4–60 mm, base cuneate or attenuate into a winged base in the lower leaves; capitula in terminal corymbs of 1–6, discoid; corolla bright orange, lobes 1–2.2 mm long; achenes 2–4.7 mm long, shortly hairy at least in upper part; pappus 3–6 mm; in grassland, bushed grassland, a common weed of cultivation. Uganda, Tanzania, Kenya, Zimbabwe, D.R.C., Burundi, Angola, Zambia, and Mozambique.

Source. *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, Jalawe Viewpoint, 2000, *Thera* 3110 (MAL); Fingira Rock, 2000, *Willis & Luhanga* 206 (PRE).

Emilia guineensis Hutch. & Dalziel

Erect slender-branched herb 0.3–0.5 m high with numerous yellowish heads. A species described from Guinea, but the name has never been listed in any subsequent publications, notably the most recent being *F.T.E.A. Compositae* (3), and *Kew Bulletin* 41(4): 873–943. Two specimens in PRE from Angola and Zimbabwe.

Malawi. Nyika National Park, Dembo Bridge, 2000, *Willis* 23 (PRE).

Emilia hockii (De Wild. & Muschl.) C.Jeffrey

Senecio hockii De Wild & Muschl.; *Senecio rogersii* S.Moore

Perennial herb 60–30 mm high with creeping rhizome; leaves slightly fleshy, grey-green above, sessile, narrowly obovate or elliptic, 11–50 × 2–28 mm, base attenuate; scapes 1–4, glabrous, 1-headed; capitula terminal, solitary, discoid; florets yellow or orange; achenes 4–5.5 mm long, hairy; pappus 7.5–9 mm long; in grassland, burnt grassland, roadsides, cultivation. Malawi, Tanzania, D.R.C., and Zambia.

Source. *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, without localities or collecting details (Mill 1979, Patel 1999).

Emilia integrifolia Baker ❖

Annual or short-lived perennial herb 0.01–1.2 m high; leaves sessile, somewhat succulent, basal leaves 11–65 × 2–13 mm, upper leaves 30–160 × 2–7 mm; capitula 3–14 in lax to rather congested terminal corymbs, discoid; disc florets bright to pale purple, mauve, pink or white, corolla 4–6.2 mm long, lobes 1–2 mm; achenes 1.2–1.5 mm long, glabrous; pappus 2.5–4 mm long; in swampy grassland, sometimes common. Kenya, Uganda, Tanzania, Zambia, and Malawi; also Madagascar.

Source. Patel (1999); Mill (1979); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, Lake Kaulime, 2000, *Mwanyambo* 497 (MAL); at 2nd trout dam on the way to Chelinda Bridge, 10° 35' 46"S, 33° 48' 25"E, 2000, *Koekemoer* 1794 (PRE).

***Erigeron karvinskianus** DC. ❖

Erigeron mucronatus DC.

Perennial herb, 0.3–0.75 m long, procumbent and forming interlaced mats, with erect flowering branches; leaves alternate or in axillary fascicles, proximal leaves with 3–5 lobes, distal leaves elliptic, 5–40 × 3–16 mm, 3-nerved from the base; capitula 7–8 mm long, solitary or up to 5 in a lax panicle; ray florets 1-seriate, rays white above, pink beneath, 5–6 × 0.5–1 mm; disc florets yellow; along roadsides, in clearings or cultivated fields. Originally from Central America, but now a widespread weed in the colder and wetter parts of the tropics.

Source. *F.T.E.A. Compositae* (2): 481 (2002).

Malawi. Nyika National Park, wall of trout dam near Chelinda Camp, 10° 35' 14"S, 33° 48' 41"E, 2000, *Koekemoer* 1694 (PRE).

Erythrocephalum zambesianum Oliv. & Hiern ❖

Erythrocephalum zambesianum var. *angustifolium* S.Moore;

Erythrocephalum niassae Wild

An erect suffrutescent 0.12–0.8 m high, from a woody rootstock; stems annual, usually single; leaves discolorous, sessile, 70–220 × 15–75 mm, elliptic to lanceolate, margins sharply serrulate, upper surface green, thinly araneose; capitula usually solitary; ray florets deep-red, rays to 12 × 2.5 mm, pappus of few caducous setae; disc florets deep-red, 8–14 mm long; in miombo woodland and open grassland. Mozambique, Tanzania, and D.R.C.

Source. Mill (1979); *Flora zambesiaca* 6(1): 23 (1992).

Malawi. Nyika National Park, path between viewpoint and Chisanga Falls, 10° 32' 31"S, 33° 41' 07"E, 2000, *Koekemoer* 1708 (PRE); Mwanda Mountain slope, 2000, *Willis* 182 (PRE).

Felicia boehmii O.Hoffm. ❖

Felicia homochroma S.Moore; *Felicia boehmii* O.Hoffm. subsp.

homochroma (S.Moore) Grau

Erect annual herb, 0.1–0.75 m high; leaves opposite proximally, alternate distally, linear to lanceolate, 10–60 × 1–14 mm; capitula 5–12 mm long; involucre bracts thinly hairy; ray florets yellow to orange, ca 30, ray 4–13 × 0.7–3 mm; disc florets yellow to orange, tube 3–3.8 mm long; in grassland, woodland, on sandy or rocky soils. Malawi, Zambia, Nigeria, Cameroon, D.R.C., and Tanzania.

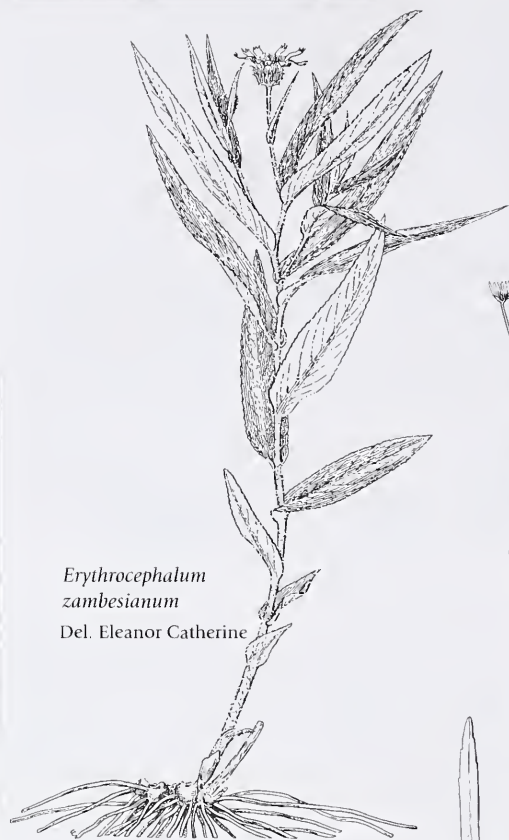
Source. Grau & Lippert (1980: 8); *F.T.E.A. Compositae* (2): 475 (2002).

Malawi. Nyika National Park, Chisimuka, 2001, without collecting details (Patel & Overton 2002: 34).

***Galinsoga parviflora** Cav. ❖

Adventina parviflora Raf.

Annual herb up to 0.1–0.75 m high, erect, spreading or decumbent; leaves petiolate, membranous, ovate 15–70 × 8–40 mm, 3-veined from base; petiole to 15 mm long; capitula in few-headed cymes; ray florets white, 4–5,

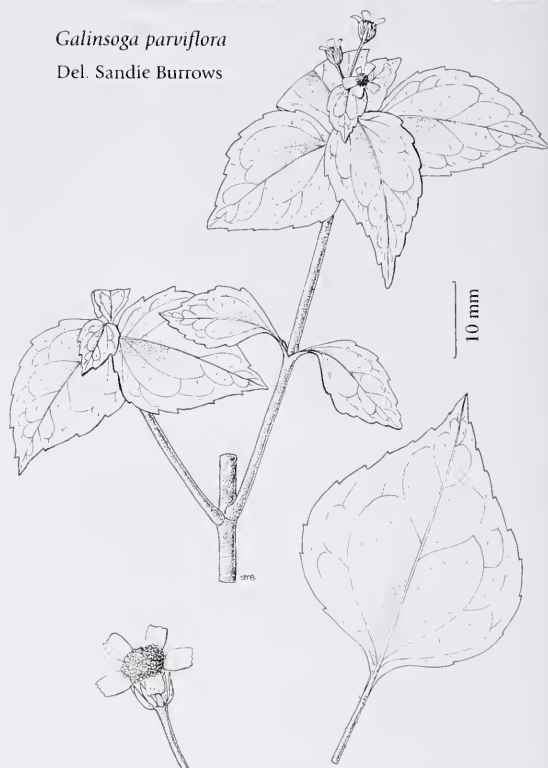


*Erythrocephalum
zambesianum*
Del. Eleanor Catherine



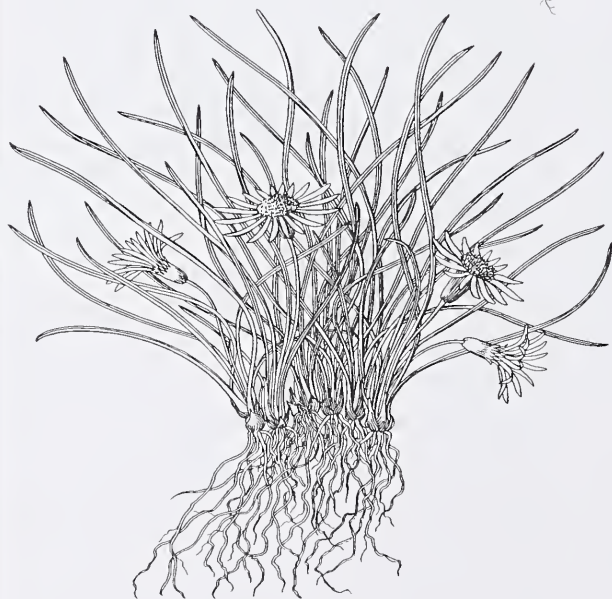
Felicia boehmii
Del. Sandie Burrows

20 mm



Galinsoga parviflora
Del. Sandie Burrows

10 mm



Gazania krebsiana subsp. *serrulata*
Del. Victoria Goaman



Gerbera viridifolia
Del. Eleanor Catherine

ray broadly ovate, 0.8–1.2 mm long, 3-lobed; disc florets yellow; achenes 1.2–2 mm long, puberulous; pappus of about 15 ovate lacinate scales 1–1.5 mm long; a weed in gardens and waste places. Native to S. America.
Source. *F.T.E.A. Compositae* (3) (unpublished ms.).
Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Gazania krebsiana Less. subsp. **serrulata** (DC.) Roessler ❖

Gazania oxyloba DC.; *Gazania lineariloba* DC.
 Perennial herb to 0.2 m high; leaves pinnatifid or entire; flowers yellow or white with green, brown or purple veins below; disc florets yellow; in grassland and seasonal swamps (marshes or dambos) from low to high altitudes; flowering October to July. Widespread in central and southern Africa.
Source. Patel (1999); Mill (1979); Roessler (1975: 97).

Malawi. Nyika Plateau, valley N. of Chelinda Camp, 2,300m, 1962, *Tyrer 712* (BM, SRGH); South Circular Route, 10° 38' 23"S, 33° 45' 46"E, 2000, *Koekemoer 1826* (PRE); between Chelinda Bridge and Dembo River crossing, 10° 31' 53"S, 33° 51' 27"E, 2000, *Koekemoer 1755* (PRE).

Gerbera ambigua (Cass.) Sch.Bip.

Gerbera kraussii Sch.Bip. incl. *Gerbera kraussii* var. *gueinzii* Harv.; *Gerbera kraussii* var. *sinuata* Dummer; *Lasiopus ambiguus* Cass.
 Acaulescent perennial herb; leaves entire or sinuate, lower surface persistently white or lemon tomentose; rays white above, pink, mauve or red below, rarely yellow; disc florets white, yellow, reddish or blackish; a pyrophyte in submontane areas, open *Brachystegia* woodland, savanna, along rivers or in damp areas in grassland. Tanzania, Zambia, Zimbabwe, Malawi, Mozambique, D.R.C., Swaziland, and South Africa.
Source. Patel (1999); Brummitt (1973); *Flora zambesiaca* 6(1): 47 (1992); Wild (1972: 204); Patel & Overton (2002).
Malawi. Nyika, Chelinda Camp, 1962, *Tyrer 706* (BM, SRGH).
No country given. 1967, *Richards 22617* (UZL).

Gerbera piloselloides (L.) Cass. ●

Arnica piloselloides L.; *Gerbera hirsuta* (Forssk.) Less.
 An acaulescent perennial herb, from a thickened rootstock; leaves few to many, radical, ascending or spreading, broadly lanceolate, 40–200(–300) x 15–70 mm; capitula solitary, involucre 16–28 x 15–35 mm; ray florets creamy-white, rays to 7 x 1 mm, achenes 8–11 mm long with a beak to 14 mm long; central florets creamy-white, functionally male; pappus copious, setae 6–11 mm long; a pyrophyte of submontane and plateau grasslands, in dambos, and in open *Brachystegia-Uapaca* woodland. Widespread in Africa and Asia.
Source. Brummitt (1973); *Flora zambesiaca* 6(1): 48 (1992); Wild (1971: 206).
Malawi. Nyika National Park, Nganda, 1972, *Synge 366* (K, MAL, SRGH, UPS); without locality, 1947, *Benson 1422* (BM, SRGH).
No country given. 1967, *Richards 22459* (UZL).

Gerbera viridifolia (DC.) Sch.Bip. ❖

Lasiopus viridifolius DC.; *Gerbera abyssinica* Sch.Bip.
 Acaulescent perennial herb from a thickened rootstock; roots thong-like, thick, but not swollen; leaves radical, ascending or spreading, up to 220(–280) x 140, lanceolate, elliptic, oblong or rarely ovate, cuneate, with remote crenate, distinct teeth; young leaves and scapes moderately pilose-villose with whitish hairs; scapes not swollen below head; capitula solitary, involucre mostly 10–18 x 20–30 mm; rays biseriate, prominent, white above, pink or even yellow below, ray (8–)15(–24) x 1.7 mm; disc white, yellow or tinged greenish; in grassland, savanna, open woodland, riverbanks, and mountainsides. Widespread throughout Africa.
Source. Patel (1999); Mill (1979); *Flora zambesiaca* 6(1): 44 (1992); Patel & Overton (2002).
Malawi. Nyika Plateau, ca 40 km E. of Rest House on Nchenachena Road, 2,400 m, 1958, *Robson 429* (BM, K).
Zambia. Nyika Plateau, ca 6 km S. of Nganda Hill, 2,133 m, 1955, *Lees 88* (K).

Guizotia scabra (Vis.) Chiov. subsp. **scabra** ❖

Veslingia scabra Vis.; *Guizotia schultzei* Hochst. ex. A.Rich.; *Guizotia*

nyikensis Baker

Erect perennial or annual herb ca 1(–2) m high; leaves opposite, sessile, narrowly lanceolate to ovate, 30–170 x 10–40 mm; capitula in corymbose cymes; ray florets yellow or orange-yellow, deeply 3-dentate, ray 11–16 mm long; disc florets yellow, pubescent at the base; achenes 1.8–3 mm long, glabrous; pappus absent; usually in swampy areas or by streamsides, occasionally in grassland in high-rainfall areas, a weed of cultivated areas. Widespread in tropical Africa.

Source. Patel (1999); Brummitt (1972); Mill (1979); Wild (1967: 12); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika Plateau, 1896, Whyte s.n. (K, syn.) [Type of *G. nyikensis*]; N.W. foot of Nganda, 1958, *Robson & Angus 471* (BM, K, SRGH); Luselo R., 2000, *Salubeni & Mwanyambo 6801* (MAL); Juniper Forest, 2000, *Burrows & Burrows 6928* (PRE).

Gynura scandens O.Hoffm. ❖

Crassocephalum scandens (O.Hoffm.) Hiern; *Crassocephalum ruwenzoriensis* S.Moore

Climbing herb, 1.5–12 m long, slightly fleshy with unpleasant smell; leaves ovate or triangular, 25–120 x 15–80 mm, margin denticulate to dentate; capitula several to many in terminal corymbs; florets orange or rarely yellow, 10–16 mm long; achenes 4.5 mm long, hairy in the grooves; pappus white, 8–11 mm long; on forest margins and in clearings, also in secondary forest and riverine forest. Kenya, Uganda, Tanzania, D.R.C., Rwanda, Burundi, Angola, Zambia, and Malawi.

Source. *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, without localities or collecting details (Mill 1979, Patel 1999).

Haplocarpha scaposa Harv. ❖

Haplocarpha thumbergii DC.; *Arctotis scaposa* (Harv.) O.Hoffm.

A scapose perennial herb from a woody rootstock; leaves up to 12, rosulate, 50–200 x 15–60 mm, elliptic to oblanceolate, midrib composed of 5–7 distinct veins, upper surface finely pilose, lower surface densely white-felted; involucre 12–25 x 8–13 mm, broadly cupuliform; rays yellow, usually erect, 10–21 x 1.5–2.8 mm; a pyrophyte of submontane grassland, miombo and *Acacia* woodlands bordering dambos, or on floodplains, often in black clay soils, flowering soon after fires. Central and southern Africa.

Source. Patel (1999); Mill (1979); *Flora zambesiaca* 6(1): 233 (1992).

Malawi. Nyika Plateau, Lake Kaulime, 2,150 m, 1958, *Robson & Angus 322* (K).

Zambia. Nyika, without locality, 1962, *Fanshawe 7353* (K, NDO).

Helichrysum abietinum O.Hoffm.

Shrub 0.3–1.8(–3) m high, much branched, branches densely leafy; leaves dark green above, silvery beneath, spreading, sessile, linear, 5–15 x 0.5–2 mm, margins revolute, sparsely pilose and glandular above, tomentellous and glandular beneath; capitula 3–5 mm long, in terminal convex corymbs to 20 mm diameter; involucre bracts silvery-green when fresh, drying pale brown with darker apex; florets yellow, 20–30, 1.7–2.3 mm long; in grassland and on river banks. Tanzania, D.R.C., Burundi, and Malawi.

Source. *F.T.E.A. Compositae* (2): 417 (2002).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Helichrysum brassii Brenan

Perennial herb 0.3–0.4 m high; leaves oblanceolate 15–50 x 3–8 mm, upper surface with short dense glandular indumentum showing 1–2 prominent veins; capitula terminal or 1–5 together; involucre 8–12 mm long; achenes oblong-ellipsoid, 0.5 x 0.3 mm; in open grassland and woodland. Malawi and Mozambique. Brenan (1954) describes three varieties of which he records two for Nyika: var. *aggregatum* and var. *tenellum*. For this treatment the varieties are not described separately. This species closely resembles *H. sulphureo-fusum*.

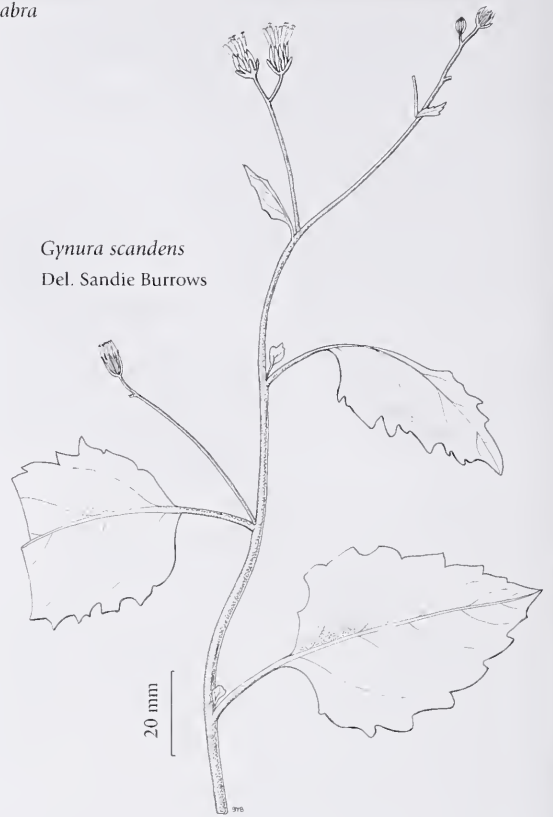
Source. Patel (1999); Brenan (1954: 472).

Malawi. Nyika National Park, Chosi Viewpoint, 2000, *Mwanyambo 478* (MAL); *ibid.*, 2000, *Koekemoer 1678* (PRE); Southern Circular route to Chelinda Bridge, 10° 37' 40"S, 33° 48' 21"E, 2000, *Koekemoer 1803* (PRE); Nyika Plateau, 1903, *McClounie 154* (K).

Guizotia scabra subsp. *scabra*
Del. Sandie Burrows

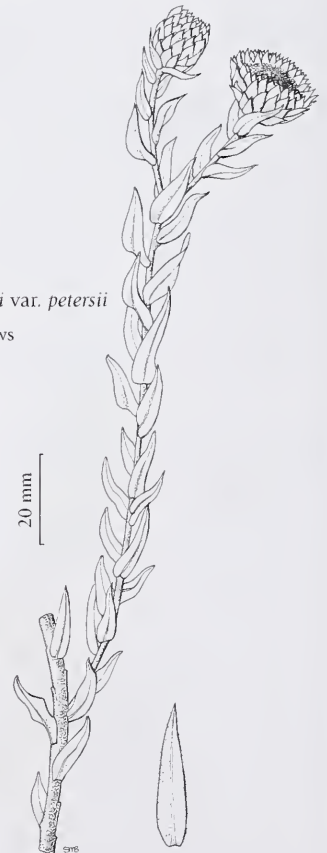


Gynura scandens
Del. Sandie Burrows



Haplocarpha scaposa
Del. Eleanor Catherine

Helichrysum kirkii var. *petersii*
Del. Sandie Burrows



Helichrysum buchananii Engl.

Helichrysum kassneri S.Moore

Perennial herb 0.3–1 m high, with stems from a woody rootstock; leaves greyish green, sessile, oblong to lanceolate, 10–50 × 3–12 mm, base semi-amplexicaul, margins slightly revolute, densely tomentose on both surfaces; capitula 9–12 mm long, solitary or in small groups; involucre bracts shiny golden yellow or brownish; florets yellow to orange, 1.7–2.2 mm long; in grassland and disturbed areas. Tanzania, D.R.C., Rwanda, Burundi, Malawi, Mozambique, and Zimbabwe.

Source. Patel (1999); *F.T.E.A. Compositae* (2): 417 (2002).

Malawi. Nyika National Park, Dembo Bridge, 2000, *Thera* 3005 (MAL); without locality or collecting details (Mill 1979).

Helichrysum foetidum (L.) Moench

Gnaphalium foetidum L.; *Gnaphalium argenteum* Mill.; *Helichrysum foetidum* var. *citreum* Less.; *Helichrysum foetidum* var. *pallidum* Less.

Stout biennial herb, stem simple or sparingly branched, to 1 m high, glandular-pubescent; radical leaves elliptic, to 120 × 50 mm, withered at flowering; cauline leaves mostly 40–90 × 10–25 mm, lanceolate; capitula 8–12 × 15–25 mm with radiating bracts, many in corymbose panicle; bracts glossy, pale lemon-yellow or creamy; flowers 396–835; in grassland and on forest margins, sometimes in disturbed areas. South Africa northwards throughout eastern Africa to Sudan and Ethiopia; perhaps extending as far as Nigeria, Spain, and Arabia.

Source. Patel (1999); Mill (1979); Hilliard (1983): 304.

Malawi. Nyika National Park, close to Chosi Viewpoint, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer* 1691 (PRE); between Chelinda Bridge and Dembo River crossing, 10° 32' 38"S, 33° 50' 33"E, 2000, *Koekemoer* 1743 (PRE).

Helichrysum forskahlii (J.F.Gmel.) Hilliard & B.L.Burt var. **forskahlii** ●

Helichrysum fruticosum (Forssk.) Vatke; *Helichrysum cynosum* (L.)

D.Don subsp. *fruticosum* Hedberg; *Helichrysum leptothamnus* Moeser. Erect or sometimes much-branched scandent shrub, 0.3–1 m high; leaves spreading, somewhat distant, 10–25 × 2–5 mm, sparsely tomentose to glabrous above, grey-tomentose beneath; involucre bracts pale green, yellow or silvery yellow with darker apices; capitula 2–4.5 mm long, in dense roundish cymes; florets 9–30, pale yellow becoming orange with age, 1.8–2.6 mm long; in upland and alpine grassland, forest margins, and boggy sites, also on dry, stony sites. From Nigeria to Ethiopia and Yemen in the north, throughout central Africa to Angola and Zimbabwe.

Source. *F.T.E.A. Compositae* (2): 415 (2002); Patel (1999); Brummitt (1973); Mill (1979); Patel & Overton (2002).

Malawi. Nyika National Park, Kawozya summit, 1972, *Brummitt & Sygne* 203 (K, MAL, SRGH, LISC, EA, UPS); Chosi Viewpoint, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer* 1685 (PRE); South Circular Route, 10° 37' 40" S, 33° 48' 21" E, 2000, *Koekemoer* 1919 (PRE); hill slope E. of Dembo Bridge, 2000, *Willis* 31 (PRE).

Helichrysum goetzeanum O.Hoffm.

Perennial herb scrambling to 2.5 m; branches white-tomentose; leaves lanceolate, 30–180 × 10–55 mm amplexicaul, sparsely pilose above, white-tomentose beneath; capitula 7–8 mm long, many in corymbose panicles; involucre bracts shiny pale yellow; florets yellow, 1.8–2.9 mm long; achenes ellipsoid, 0.8–0.9 mm long, glabrous; pappus whitish, 2–3 mm long, barbellate; at high altitudes, on forest margins. Tanzania, D.R.C., Rwanda, and Malawi.

Source. Brummitt (1973); Patel (1999); Mill (1979); *F.T.E.A. Compositae* (2): 428 (2002).

Malawi. Nyika National Park, forest 4 km W. of Nganda, 1972, *Brummitt & Sygne* 76 (K, MAL, SRGH, LISC, EA).

Helichrysum herbaceum (Andr.) Sweet

Helichrysum monocephalum Baker [Syn.: *S Nyika* Mountains, 1896, *Whyte* s.n. (K)]; *Helichrysum splendens* Sims

Perennial herb to 0.3–0.6 m high, stoloniferous, stems solitary or few; rosette leaves sometimes present, to 50 × 20 mm; cauline leaves sessile, linear, 10–30 × 1–3 mm, margins revolute; capitula campanulate, 18–20 mm long, solitary or in few-headed corymbs; flowers yellow to orange, 4.1–4.9 mm

long; involucre yellow to golden-brown; confined to mountainous grassland. Tanzania, D.R.C., Zambia, Malawi, Zimbabwe, and South Africa.

Source. Patel (1999); *F.T.E.A. Compositae* (2): 434 (2002).

Malawi. Nyika National Park, Chosi Viewpoint, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer* 1679 (PRE); Jalawe Viewpoint, 10° 21' 44"S, 33° 47' 49"E, 2000, *Koekemoer* 1866 (PRE); Chelinda Bridge, 2000, *Willis* 41 (PRE).

Helichrysum hilliardiae Wild

Perennial stoloniferous herb to 0.6 m high, stolons to 200 mm long; stems erect, 2–3, pilose; leaves to 60 × 15 mm, oblong to obovate; capitula to 10 mm diameter, congested terminally; female florets 33–53, hermaphrodite florets 200–500; achenes 0.25 mm long, cylindrical; pappus barbellate; in secondary forest, at streamsides, or in swampy ground. Endemic to Nyika Plateau.

Source. Wild (1983): 192.

Malawi. Nyika Plateau, near Chelinda chalets, 1967, *Hilliard & Burt* 4445 (SRGH, holo., E, NU); *ibid.*, 1977, *Pawek* 12256 (K, MO, SRGH, UC); Lake Kaulime, 1959, *Richards* 10472 (K, SRGH).

Zambia. Nyika Plateau, without locality, 1962, *Fanshawe* 7313 (NDO, SRGH).

Helichrysum kirkii Oliv. & Hiern var. **kirkii**

Helichrysum kirkii Oliv. & Hiern var. *concolor* Engl.; *Helichrysum milanjiense* Britten; *Helichrysum luteorubellum* Baker; *Helichrysum kirkii* Oliv. & Hiern var. *luteorubellum* (Baker) Moeser; *Helichrysum petersii* Oliv. & Hiern var. *angustifolium* Moeser

Perennial herb, 0.3–1.2 m high, one to several erect stems from a vertical woody rhizome, densely leafy; leaves linear, 10–40 × 1–4 mm, overlapping, thinly tomentose and glabrescent above, white-tomentose beneath; capitula 9–16 mm long, solitary or in few-headed cymes, involucre bracts golden yellow or rarely orange yellow; florets yellow or orange-yellow, 2.5–4 mm long; in montane grassland or bushy grassland, often in stony or eroded situations, may be locally common. Kenya, Tanzania, D.R.C., Zambia, Malawi, and Mozambique.

Source. Patel (1999); Brummitt (1973); Mill (1979); *F.T.E.A. Compositae* (2): 429 (2002); Patel & Overton (2002).

Malawi. Nyika National Park, S. slopes of Kawozya, by lower Mondwe River, 1972, *Brummitt & Sygne* 175 (K, MAL, LISC); N. of Fingira Rock, 2000, *Willis* 253 (PRE).

Helichrysum kirkii Oliv. & Hiern var. **petersii** (Oliv. & Hiern) Beentje ♦

Helichrysum petersii Oliv. & Hiern; *Helichrysum kundelungense*

S.Moore; *Helichrysum petersii* Oliv. & Hiern var. *subglabrum* De Wild. Leaves aromatic, lanceolate, 10–50 × 2–10 mm, scabrid above, grey-pubescent or green and sparsely pubescent beneath; capitula in terminal corymbs; involucre pale golden yellow or straw-coloured; in montane grassland and miombo. Tanzania, D.R.C., Angola, Zambia, Malawi, and Mozambique.

Source. Patel (1999); Mill (1979); *F.T.E.A. Compositae* (2): 431 (2002).

Malawi. Nyika National Park, Chosi Viewpoint, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer* 1682 (PRE); between Chelinda Bridge and Dembo River crossing, 10° 32' 38"S, 33° 50' 33"E, 2000, *Koekemoer* 1749 (PRE); Juniper Forest, 2000, *Burrows & Burrows* 6939 (MAL, PRE).

Helichrysum mechowianum Klatt var. **ceres** (S.Moore) Beentje

Helichrysum cerea S.Moore; *Helichrysum verbascifolium* S.Moore; *Helichrysum lepidorhizum* Moeser; *Helichrysum squamosifolium* S.Moore

Perennial herb with woody rootstock; flowering shoots 0.2–0.5 m high; radical leaves 1–2; cauline leaves 15–30 × 2–8 mm, villous to subglabrous above, tomentose beneath; capitula 5–8 mm long, in dense glomerules united in a fairly dense terminal globose corymb 40–90 mm diameter; involucre brown or golden-yellow, sometimes with a reddish tinge; florets yellow, 6–14, 3–5 mm long; in burned areas in grassland or wooded grassland. Tanzania, D.R.C., Rwanda, Burundi, Zambia, Malawi, and Zimbabwe.

Source. Patel (1999); Mill (1979); *F.T.E.A. Compositae* (2): 426 (2002).

Malawi. Nyika Plateau, 1903, *Henderson* s.n. (BM).

Helichrysum mechowianum Klatt var. **vernonioides** (Wild) Beentje

Helichrysum vernonioides Wild.

Flowering shoots 0.15–0.3 m high, radical leaves several, glabrous or nearly so; sparsely glandular; cauline leaves similarly glabrous and glandular; capitula 5–8 mm long, in dense globose terminal cymes 2.5–6 mm in diameter; involucre brownish, with a reddish apex and margins; florets 15–30, 3–5 mm long, glandular, but not puberulous; in frequently-burnt submontane grasslands. Also in Zambia and Tanzania.

Source. Wild (1983: 198); *F.T.E.A. Compositae* (2): 426 (2002).

Malawi. Nyika Plateau, 8 km N. of Lake Kaulime, 1970, *Brummitt 11933* (K, SRGH).

Helichrysum nitens Oliv. & Hiern subsp. **nitens**

Perennial herb with rosette of large leaves and a solitary stem 0.2–0.8 m; leaves grey or whitish, sessile, those of rosette ovate to lanceolate, 40–150(–300) × 7–35 mm, densely tomentose on both surfaces, the indumentum sometimes peeling to show the glandular leaf surface; capitula 15–23 mm long in lax terminal cymes; involucre shiny yellow or tinged bronze or brown; florets yellow, 3.7–4.7 mm long; achenes cylindric, 0.9–1.3 mm long; in montane grassland, often among rocks. Tanzania, Angola, Malawi, Mozambique, and Zimbabwe.

Source. Patel (1999); Mill (1979); *F.T.E.A. Compositae* (2): 433 (2002).

Malawi. Nyika National Park, Chosi Point, 2000, *Kasakula 194* (LMA, MAL, SRGH); *ibid.*, 2000, *Koekemoer 1686* (PRE); Chelinda Dam, 2000, *Chapama 192* (MAL); Mpopoti Peak, 2000, *Willis & Luhanga 97* (PRE).

Helichrysum nudifolium (L.) Less. var. **nudifolium**

Helichrysum leiopodium DC.; *Helichrysum gerberifolium* A.Rich;

Helichrysum coriaceum Harv.; *Helichrysum plantaginifolium*

C.H.Wright; *Helichrysum nudifolium* (L.) Less. var. *leiopodium* (DC.)

Mooser

Herb with annual stems from a perennial rootstock, 0.1–1.5 m high; rootstock crowned with old fibrous leaf bases; leaves thin to coriaceous, radical leaves elliptic to almost round, up to 50–150(–340) × 10–40(–80) mm, in a loose rosette, mucronate, cobwebby or white-woolly or minutely puberulous; cauline leaves sessile, broad-based and clasping, loosely tomentose; flowers 4–8 mm long, in large corymbose panicles; involucre bracts pale brown or lemon-yellow; in grassland, especially after a burn, often in stony or rocky sites, or on swampy ground, may form large patches. Ethiopia to Angola and South Africa.

Source. Patel (1999); Mill (1979); *F.T.E.A. Compositae* (2): 422 (2002); Patel & Overton (2002).

Malawi. Nyika National Park, Chosi Viewpoint, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer 1677* (PRE); Southern Circular route to Chelinda Bridge, 10° 37' 40"S, 33° 48' 21"E, 2000, *Koekemoer 1806* (PRE).

No country given. 1967, *Richards 22477* (UZL).

Helichrysum nudifolium (L.) Less. var. **pilosellum** (L.f.)

Beentje

Helichrysum pilosellum (L.f.) Less.; *Helichrysum latifolium* (Thunb.)

Less.

Herb 0.15–0.6 m high; rootstock crowned with old fibrous leaf-bases which are brown silky-woolly; stems several to many; leaves narrowing to a clasping base, blade mucronate, long-pubescent with coarse hairs or scabrid above; involucre brown; florets yellow or orange, 20–60, tube 2.6–3.5 mm long; in regularly-burned grassland. Kenya, Uganda, Tanzania, D.R.C., Zambia, Malawi, Mozambique, Zimbabwe, and South Africa.

Source. Patel (1999); *F.T.E.A. Compositae* (2): 423 (2002); H. Beentje, pers. comm.

Malawi. Nyika National Park, 2 km N.W. of Lake Kaulime, 1970, *Brummitt 11929* (K); Nyika Plateau, Majimbula Road, 1975, *Pawek 10302* (K).

Helichrysum odoratissimum (L.) Sweet

Helichrysum rosmarinum Mattf.; *Helichrysum engelieri* O.Hoffm.

Decumbent and erect perennial herb or woody herb, 0.3–1.2 m high, sometimes scrambling to 2 m; stems glandular, thinly white- or grey-lanate, often winged; leaves smelling of curry, linear to lanceolate, 5–60 × 2–15 mm, greyish white woolly on lower surface, aromatic; heads in dense or loose

flattened or rounded, terminal cymose clusters; capitula 3–5 mm long; flowers yellow, 2.2–2.4 mm long; outer involucre bracts pale brown, inner bright or pale canary-yellow; on grassy or rocky slopes, colonize bare areas e.g. roadsides, forest margins. Kenya, Uganda, Tanzania, D.R.C., Zimbabwe, Malawi, Mozambique, and South Africa.

Source. Patel (1999); Dowsett-Lemaire (1985); Mill (1979); *F.T.E.A. Compositae* (2): 410, 450, 452 (2002).

Malawi. Nyika National Park, Jalawe Viewpoint, 10° 21' 44"S, 33° 47' 49"E, 2000, *Koekemoer 1871* (PRE).

No country given. 1962, *Fanshawe 7372* (UZL).

Helichrysum patulifolium Baker

Helichrysum giorgii De Wild.; *Helichrysum flammeiceps* Brenan

Perennial herb or shrublet, 0.6–1.2 m high, with several stems from a woody rootstock; stems pale reddish brown, white-pubescent, with some glandular hairs, densely leafy; leaves linear, spreading or recurved, sessile, 5–28 × 1–3 mm, with glandular hairs above, white-tomentose beneath, margins revolute; capitula 7–11 mm long, many together in leafy corymbs; involucre bracts shiny yellow or orange, margins often erose; florets yellow or orange, 2–3.5 mm long; in montane grassland, on steep slopes or ridge crests. Tanzania, D.R.C., Zambia, and Malawi.

Source. Patel (1999); Brummitt (1972); Mill (1979); *F.T.E.A. Compositae* (2): 428 (2002).

Malawi. Nyika Plateau, 1946, *Brass 17218* (K, BM, MO, SRGH); W. foot of Nganda, 1972, *Brummitt, Munthali & Synge 42* (K, MAL, SRGH, LISC, EA); 4 km W.N.W. of Muzengapakweru, 1972, *Brummitt & Synge 99* (K, MAL, SRGH, LISC, EA); between Chelinda Camp and Dembo River crossing, 10° 31' 54"S, 33° 50' 47"E, 2000, *Koekemoer 1770* (PRE);

No country given. 1967, *Richards 22672* (UZL).

Helichrysum pawekiae Wild

Perennial herb to 0.8 m high; leaves sessile, 90 × 15 mm, elliptic-oblong; capitula ca 3 mm diameter in dense terminal corymbs; florets ca 15, 3 mm long; achenes 0.5 mm long; pappus numerous; in miombo woodland, montane grassland or forest edges. Apparently confined to northern Malawi. Closely related to *H. nudifolium* (L.) Less.

Source. Wild (1983: 195); H. Beentje, pers. comm.

Malawi. Nyika National Park, lower Mondwe R., 1972, *Synge 282* (K); 0.5 miles S. of Chelinda, 1977, *Phillips 2306* (K).

Helichrysum quartianum A.Rich.

Helichrysum antunesii Volk & O.Hoffm.

Perennial herb with several stems from a thick rootstock, 0.2–0.6 m high; leaves pale grey-green, sessile, elliptic to lanceolate, 20–110 × 4–20 mm, grey- or whitish-tomentose on both surfaces, 3–5-veined; capitula 8–11 mm long, in dense subglobose glomerules; involucre shiny white or cream, radiating; florets yellow or orange, 47–90, 4–5.5 mm long; in grassland or wooded grassland, especially areas that is regularly burned. Widespread in tropical Africa.

Source. *F.T.E.A. Compositae* (2): 438 (2002).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Helichrysum setosum Harv.

Perennial herb or shrub 0.2–1.5 m high, densely branched, viscid and aromatic; leaves sessile, lanceolate 20–75 × 5–20 mm, smaller upwards, both surfaces and margins glandular-setose, margins and midline above sometimes woolly; capitula 8–12(–14) mm long, depressed-globose, solitary at tips of long leafy branchlets corymbosely arranged; involucre shiny bright or golden yellow, spreading; florets yellow or orange, several hundred, 2.2–3.3 mm long; in montane grassland. Kenya, Uganda, Tanzania, D.R.C., Rwanda, Burundi, Zambia, and Zimbabwe.

Source. *F.T.E.A. Compositae* (2): 436 (2002).

Malawi. Nyika National Park, Dembo Bridge, 2000, *Thera 3014* (MAL); without locality or collecting details (Mill 1979).

Helichrysum splendidum (Thunb.) Less.

Gnaphalium splendidum Thunb.; *Helichrysum abyssinicum* (Sch.Bip.)

A.Rich.; *Helichrysum hendersonae* S.Moore

Woody virgate herb or shrublet 0.1–1.5 m high; leaves silvery-grey, sessile, linear to lanceolate, 10–30(–40) × 1–2(–6) mm, margins revolute, upper surface thickly or thinly greyish woolly or glabrous, lower greyish woolly; involucre bright canary-yellow, rarely orange; heads hemispherical, many in congested or open corymbose panicles; capitula 4–6 mm long; flowers yellow, 40–55(=105), 2.1–3 mm long; among rocks and in crevices at high altitudes, rocky places, on forest margins, in stream gullies, and on mountain tops. Tanzania, Sudan, Ethiopia, Malawi, Zimbabwe, and South Africa.

Source. *F.T.E.A. Compositae* (2): 414 (2002); H. Beentje, pers. comm.
Malawi. Nyika National Park, without localities or collecting details (Mill 1979, Patel 1999); Nyika Plateau, 1903, *Henderson* s.n. (BM) [type of *H. hendersoniae*].
No country given. 1967, *Richards* 22441 (UZL).

Helichrysium sulphureo-fuscum Baker

Perennial herb with stems to 0.5 m high from a woody rootstock; leaves green above, whitish beneath, sessile, linear, rosette leaves 30–70 × 2–4 mm; capitula 11–20 mm long; involucre pale orange-yellow with blackish green or dark brown tips; florets yellow, 1.6–2.4 mm long; in montane grassland. Tanzania, D.R.C., Malawi, Mozambique, and Zimbabwe.
Source. Patel (1999); Mill (1979); *F.T.E.A. Compositae* (2): 433 (2002).
Malawi. Nyika Plateau, 1896, *Whyte* 132 (K).

Helichrysium tillandsiifolium O.Hoffm. ●

Helichrysium chanaethammis Mattf.
 Perennial cushion-forming herb to 1 m in diameter, flowering stems to 100–200 mm high; leaves silvery-grey beneath, sessile, linear, 10–35 × 1–3 mm; capitula 3.5–6 mm long, 10–20(–30) together in terminal corymbs; involucre bracts pale brown; florets yellow, 40–55, 2.3–3 mm long; achenes cylindrical, 0.5–0.9 mm long, glabrous; pappus white, 2–2.5 mm long, caducous in groups; on rocky outcrops in montane grassland. Tanzania, D.R.C., Rwanda, Burundi, and Malawi.
Source. Mill (1979); *F.T.E.A. Compositae* (2): 412, 452 (2002); Patel & Overton (2002).
Malawi. Nyika National Park, Domwe Viewpoint, 2000, *Salubeni & Mwanyambo* 6800 (MAL); *ibid.*, 2000, *Mwanyambo* 568 (MAL); Mpopot Peak, 2000, *Willis & Luhanga* 95 (PRE).

Helichrysium tithonioides Wild

Perennial herb to 0.3 m high; stems decumbent; leaves to 40 × 3 mm; capitula 15 mm diameter, solitary or 2–4 together, peduncles swollen; florets yellow, 2.8–3 mm long; cypselas brown, ellipsoid, 0.7 mm long, papillose; in marshy ground. Endemic to the Nyika Plateau. This species appears to be unique in that the characteristically swollen peduncles are not found in any other species of the genus.
Source. Patel (1999); Wild (1983: 197).
Malawi. Nyika Plateau, Chelinda area, Pawek 12269 (SRGH, holo., K, MO, UC); Lake Kaulime, 2000, *Mwanyambo* 496 (MAL); *ibid.*, 1962, *Tyrer* 689 (BM, SRGH); *ibid.*, 1970, *Brummitt* 10792 & 11912 (K, SRGH).

Hirpicium angustifolium (O.Hoffm.) Roessl. ✧

Gazania angustifolia O.Hoffm.
 Tufted perennial herb 0.03–0.3 m high, from a small rootstock; stems annual, 1–3, purplish, usually simple; main leaves basally crowded, 100–300 mm long, filiform-linear; upper surface sparsely scabrid to glabrous; lower surface araneose-lanate; capitula solitary and terminal, involucre 5–10 mm diameter, connate (3)–7 × 4–7 mm; rays 15–20 mm long, yellow, often brown or purplish outside; disc florets yellow, 4.5–5.5 mm long; a pyrophyte in burned, seasonally flooded grassland. Malawi, D.R.C., Tanzania, and Zambia.
Source. Brummitt (1973); Mill (1979); *Flora zambesiaca* 6(1): 251 (1992).
Malawi. Nyika Plateau, 13 km from Chelinda Camp on road to main gate, 1970, *Brummitt* 11867 (PRE).

Hypericophyllum compositarum Steetz ✧

Jaumea compositarum (Steetz) Benth. & Hook.; *Jaumea johnstonii* Baker
 Erect perennial up to 1.2 (–2.4) m high; leaves sessile or nearly so, simple, opposite, 10–180 × 10–60 mm, margins entire or undulate; inflorescence

cymose; capitula 3–21; florets bright orange-red or red, corolla 10–12 mm long; an infrequent plant of miombo woodland, usually on rocky granite outcrops or escarpments. Malawi, Zambia, Zimbabwe, Mozambique, and Tanzania.
Source. Pope (1975: 107).
Malawi. Nyika Plateau, 1896, *Whyte* 228 (K) [syn. of *Jaumea compositarum*].

Inula glomerata Oliv. & Hiern

Inula clausenii De Wild.; *Inula acervata* S.Moore
 Robust perennial herb up to 1.5 m high; basal leaves in a rosette, 300–600 × 120–320 mm, petiolate, petiole to 220 mm long, leaves ovate, denticulate, tomentose; capitula 8–12 mm long, heterogamous, several in dense glomerules 20–40 m in diameter, glomerules arranged in large leafy panicles; florets yellow, all tubular; in miombo woodland, wooded grassland, grassy mountainsides. Kenya to Angola and South Africa.
Source. Patel (1999); Mill (1979); *F.T.E.A. Compositae* (2): 324, 325 (2002).
Malawi. Nyika National Park, between viewpoint and Chisanga Falls, 10° 32' 31"S, 33° 41' 07"E, 2000, *Koekemoer* 1709 (PRE).

Inula mannii (Hook.f.) Oliv. & Hiern

Vernonia? mannii Hook.f.; *Laggera heteromalla* Vatke; *Vernonia myriotricha* Baker
 Perennial herb with basal leaf rosette; flowering branches one to several, 0.9–3 m high; basal leaves ovate or elliptic, aromatic, 350–900 × 120–200 mm, short-petiolate, margins dentate, both surfaces tomentose; capitula 8–13 mm long, heterogamous, in dense terminal, leafy corymbs; florets dull red or purplish, 3.6–5.7 mm long, glandular; achenes cylindric, 1.2–2 mm long, glabrous; pappus 3–4.5 mm long; in forest margins, montane scrubland. Kenya, Uganda, Tanzania, Cameroon, D.R.C., Rwanda, Ethiopia, and Malawi.
Source. *F.T.E.A. Compositae* (2): 326, 328 (2002).
Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Inula paniculata (Klatt) Burtt Davy ✧

Inula macrophylla (A.Rich.) Sch.Bip.; *Monactinocephalus paniculatus* Klatt
 Perennial herb with basal leaf rosette, flowering stem 0.6–2.4 m high; basal leaves elliptic or oblanceolate, 300–600 × 70–125 mm, petiolate, petiole 50–100 mm long, margins coarsely dentate, both surfaces tomentose; capitula 5–9 mm long, heterogamous, in dense terminal corymbs or panicles; florets yellow, 3–4.2 mm long, glandular; in grassland in marshy areas; flowering October to January. W. Africa to Ethiopia and southwards to South Africa.
Source. *F.T.E.A. Compositae* (2): 325, 324 (2002).
Malawi. Nyika National Park, without locality or collecting details (Patel 1999); without locality, 2000, *Winter* 4153 (MAL).

Inula shirensis Oliv.

Bojeria vestita Baker; *Inula bakeriana* O.Hoffm.; *Erythrocephalum erectum* Klatt
 Perennial herb with large basal leaves and a flowering stem 0.3–1.5 m high; basal leaves 150–450 × 70–260 mm, petiolate, petiole to 100 mm long, margins sinuate-crenate, pilose on both sides; capitula 22–40 mm long, heterogamous, solitary or up to 4 in a corymb; florets glandular, ray florets bright yellow, ray 8–14 × 1.5–2 mm; inner florets cylindric, 7–7.5 mm long; in miombo woodland and veld. Tanzania, D.R.C., Burundi, Zambia, Malawi, and Mozambique.
Source. Patel (1999); Brummitt (1973); Mill (1979); *F.T.E.A. Compositae* (2): 323 (2002).
Malawi. Nyika National Park, W. foot of Nganda, 1972, *Brummitt, Munthali & Synge* 43 (K, MAL, SRGH, LISC).

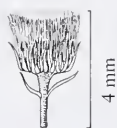
Lactuca calophylla C.Jeffrey

A subscape perennial herb to 0.75 m high; leaves 1–6 in a basal rosette; inflorescence up to 0.25 m long; capitula numerous; florets 4–6 per capitulum, corollas yellow; ligule 9–12 × 2.5–4 mm; achenes reddish brown, not beaked, 4.5–5.5 mm long; pappus numerous, barbellate; a pyrophyte, locally frequent in mountain grassland and high-rainfall woodland. Malawi,

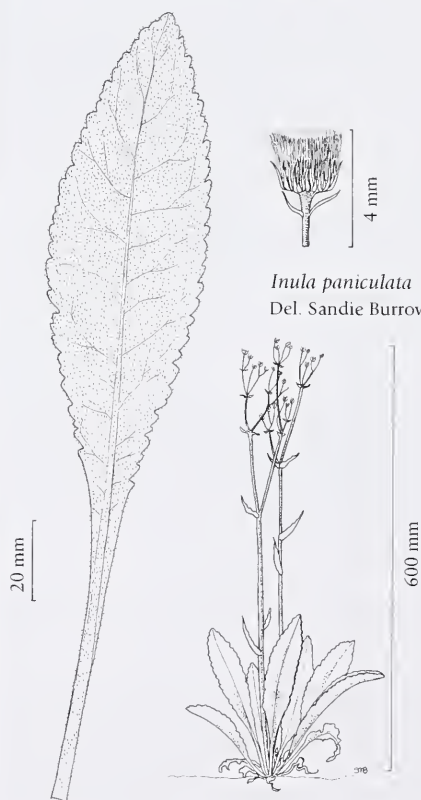
Hirpicium angustifolium
Del. Sandie Burrows



Hypericophyllum
compositarum
Del. Sandie Burrows



Inula paniculata
Del. Sandie Burrows



Lactuca glandulifera
Del. Sandie Burrows

Zambia, and Tanzania.

Source. Patel (1999); Mill (1979); *Flora zambesiaca* 6(1): 198 (1992).

Malawi. Nyika Plateau, Lake Kaulime, 2,250 m, 1959, *Richards 10456* (K); Nganda, 2000, *Winter 4078* (MAL).

Lactuca glandulifera Hook. ✧

Lactuca integrifolia DeWild.; *Lactuca glandulifera* var. *calva* (R.E.Fr.)

Robyns; *Sonchus ledermannii* R.E.Fr.

Creeping or scandent, sticky, short-lived perennial herb to 1.5(–3) m high; young growth reddish-purple and densely glandular or glabrescent; leaves to 105–120 x 50 mm, narrowly ovate-elliptic, usually 3- to 5-lobed or simple; capitula numerous, in panicles, densely glandular; involucre 10–14 x 2–3 mm; florets 5 per capitulum, ligule yellow, often purplish outside, to 6 x 1.5 mm; in montane evergreen forests and grassland, often as pioneer in disturbed areas. Known from southern Malawi and Mozambique northwards to W. Africa and Ethiopia. Not recorded for Nyika in *Flora zambesiaca*.

Source. *Flora zambesiaca* 6(1): 208 (1992).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Lactuca lasiorhiza (O.Hoffm.) C.Jeffrey

Sonchus lasiorhizus O.Hoffm.; *Sonchus quercifolius* Phillipson

An acaulescent perennial herb rarely more than 0.7 m high; root crown very densely brown sericeous-lanate with hairs ca 20 mm long; leaves radical, appearing after flowering, ca 90(–250) mm long, oblanceolate; capitula few to numerous, densely aggregate, to 100 mm diameter; corollas ca 16 mm long; rays yellow, sometimes becoming reddish-purple outside, ca 10 mm long; a pyrophyte of montane grassland, high-rainfall woodland or seasonally waterlogged grassland (dambos), flowering after fire. Widespread in tropical Africa.

Source. Mill (1979); *Flora zambesiaca* 6(1): 197 (1992).

Malawi. Nyika Plateau, road to Kasaramba, 2,250 m, 1967, *Richards 22581* (K).

Lactuca paradoxa Sch.Bip.

A scandent diffuse short-lived perennial herb up to 2 m high with stems up to 5 m long; leaves imparipinnately compound, up to 145 x 80 mm, narrowly ovate; inflorescence paniculate; capitula numerous; florets ca 5 per capitulum; corollas to 14 mm long; ligule yellow 6–8 x 1.5–2 mm; in high altitude evergreen forests, often as a pioneer of cleared forest. Malawi, D.R.C., Ethiopia, Uganda, Kenya, and Tanzania.

Source. *Flora zambesiaca* 6(1): 208 (1992).

Malawi. Nyika Plateau, Kafwimba Rainforest, 1,900 m, 1975, *Pawek 10051* (K, MAL, MO, SRGH, UC).

Lactuca praecox R.E.Fr.

A subscapose perennial herb to 70–550 mm high, from a semi-woody rootstock, flowering stems 1-several; leaves appearing after flowering, sessile, linear-oblong or elliptic to ovate, margins ciliate-dentate; capitula numerous in panicle; involucre cylindric 7–10 x 25 mm; florets 5 per capitulum, yellow, ligule 10–14 x 3–4.5 mm; a pyrophyte in montane grassland and *Brachystegia* woodland. Angola, D.R.C., Zambia, Tanzania, and Malawi.

Source. Brummitt (1973); Mill (1979); *Flora zambesiaca* 6(1): 198 (1992).

Malawi. Nyika National Park, valley of Nganda, 1972, *Synge 384* (K, MAL).

Laggera brevipes Oliv. & Hiern ✧

Blumea brevipes (Oliv. & Hiern) Wild.; *Laggera crispata* (Vahl) Hepper

& J.R.I.Wood var. *appendiculata* (Robyns) Lisowski

Annual or perennial herb, 0.4–2 m high, aromatic, stems winged, wings 1–4 mm wide; leaves lanceolate, 20–120 x 7–50 mm, glandular, margins serrate; capitula 9–14 mm long, in large leafy panicles, to 400 x 200 mm; florets pink, mauve or purple, scented, outer florets >100, 4–5.8 mm long, inner florets 30–40, 5–6.3 mm long; in wooded grassland, miombo, waste ground. Kenya and Uganda to Angola and Zimbabwe; also in Madagascar.

Source. Patel (1999); *F.T.E.A. Compositae* (2): 355, 356 (2002); Patel & Overton (2002).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Laggera crispata (Vahl.) Hepper & J.R.I.Wood

Conyza crispata Vahl.; *Laggera alata* sensu auctt. non (D.Don) Oliv.

Annual or perennial herb, 0.6–2.4 m, several stemmed, stems with entire or toothed wings to 5(–15) mm wide, densely glandular, plants viscid and aromatic; leaves often tinged purple, sessile, oblong to obovate, 30–270 x 8–110 mm decreasing in size distally, margins serrate; capitula 8–12 mm long, in panicles; florets pink, mauve or purple, outer florets 5–7 mm long, anthers pink; in waste ground, roadsides, streamsides, woodland, grassland. Throughout tropical Africa and tropical Asia.

Source. Patel (1999); Brummitt (1973); Mill (1979); *F.T.E.A. Compositae* (2): 353 (2002).

Malawi. Nyika National Park, Chipome Valley, 1972, *Synge 269* (K, MAL, SRGH).

Launaea nana (Baker) Chiov.

Lactuca nana Baker; *Sonchus nanus* O.Hoffm.

Acaulescent, cushion-like perennial herb; leaves 2–6, in rosettes, glabrous, up to 200 x 60 mm, sinuate-dentate to pinnately-lobed; capitula numerous, densely aggregate, 20- to 25-flowered; corollas yellow, 10–15 mm long, ligule becoming purplish-brown, 4–5 mm long; a pyrophyte of grassland and open miombo woodland; flowering August to November. Widespread in sub-Saharan Africa.

Source. *Flora zambesiaca* 6(1): 217 (1992).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Launaea rarifolia (Oliv. & Hiern) Boulos var. *rarifolia* ✧

Sonchus rarifolius Oliv. & Hiern; *Lactuca welwitschii* Scott-Elliott

Acaulescent cushion-like perennial herb up to 1 m high, or a small caespitose herb 30–150 mm high, often glaucous; leaves in rosettes, usually appearing after the flowers, to 250(–350) x 40(–55) mm, denticulate or coarsely dentate-lobulate; capitula few or many, involucre 12–15 x 2 mm, 6–12-flowered; corollas yellow, 13–15 mm long; in Nyika and at high altitudes they have dark-green phyllaries. A pyrophyte of grassland and miombo woodland; flowering August to November. Widespread in sub-Saharan Africa and in Madagascar.

Source. *Flora zambesiaca* 6(1): 215 (1992).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Lopholaena dolichopappa (O.Hoffm.) S.Moore ✧

Lopholaena pauciflora Thell.; *Lopholaena brevipes* Phillips & C.A.Sm.

Shrub 0.3–0.6 m high from a perennial woody rootstock, semi-succulent; leaves sessile, narrowly oblanceolate to spatulate 15–60 x 3–15 mm; capitula discoid, numerous, peduncles of individual capitula 12–70 mm long; florets 3–4, white or sometimes tinged lilac, exserted and exceeding the pappus at anthesis, anthers purple; in upland grassland where it may become common after burning. Tanzania, Zambia, and Malawi.

Source. *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Melanthera albinervia O.Hoffm. subsp. *albinervia* ✧

Aspilia zombensis Baker; *Aspilia cylesii* S.Moore

Bushy perennial to 1 m high; branches square; leaves sessile or petiolate, to 120 x 40 mm, narrowly ovate to ovate or oblong to elliptic, scabrid; capitula orange or yellow, solitary at the end of long peduncles or in lax corymbs; peduncles to 120 mm long; receptacular paleae mucronate or acute, ca 1.7 mm long; ray florets to 20, ligule 6–11 mm long, 3-dentate at the apex; disc florets to 5 mm long; in savanna woodlands and woodlands. Caprivi Strip, Zambia, Zimbabwe, Malawi, Mozambique, Angola, Tanzania, and South Africa.

Source. Wild (1967: 52).

Malawi. Nyika National Park, Kasewerera, without collecting details (Patel & Overton 2002).

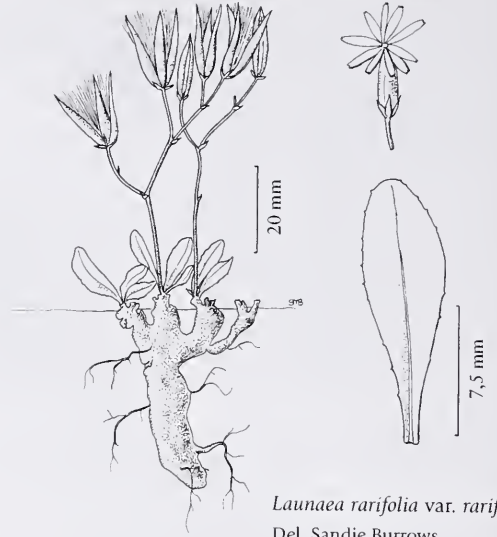
Microglossa densiflora Hook.f.

Microglossa longiradiata Wild.

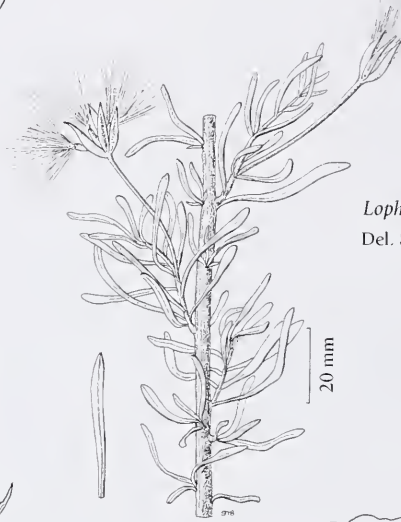
Scandent shrub 2–6 m long, or climber over trees to 7 m or more; leaves



Laggera brevipes
Del. Sandie Burrows



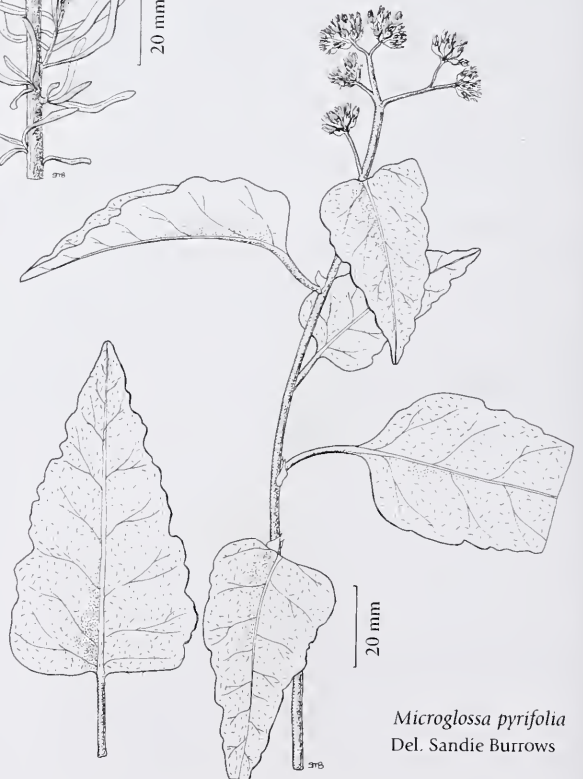
Launaea rarifolia var. *rarifolia*
Del. Sandie Burrows



Lopholaena dolichopappa
Del. Sandie Burrows



Melanthera albinervia
Del. Sandie Burrows



Microglossa pyrifolia
Del. Sandie Burrows

ovate to lanceolate, 10–140 x 20–75 mm, petiole 8–20 mm long; capitula *ca* 4–6 mm long, densely crowded in terminal many-headed corymbs, individual cymes with 6–20 capitula; ray florets white or cream, tube 1.5–2.2 mm long, linear or narrowly obovate, 1.5–3 x 0.4–0.7 mm; disc florets yellow, tube 1.7–4 mm long; in open areas, as well as forest margins and clearings. Uganda, Kenya, Tanzania, Cameroon, Bioko, D.R.C., Rwanda, Burundi, Zambia, Malawi.

Source. Mill (1979); Wild (1974: 293); Wild (1975: 29); *F.T.E.A. Compositae* (2): 484 (2002).

Zambia. Nyika Plateau, without locality, 1958, *Robson & Angus 185* (BM, K, LISC, PRE, SRGH); *ibid.*, 1958, *Robson & Angus 350* (BM, K, LISC, PRE, SRGH, UZL); Chowo Forest, 1967, *Richards 22537* (K).

Microglossa pyrifolia (Lam.) O.Kuntze ❖

Conyza pyrifolia Lam.; *Conyza volubilis* Wall.; *Microglossa volubilis* DC.; *Conyza heudelotii* Oliv. & Hiern

Climber, scandent shrub or small shrub to 6 m high; leaves ovate, 25–100 x 15–70 mm, slightly discoloured, petiolate, petiole 8–20 mm long; inflorescence of dense corymbose or subcorymbose cyme 50–200 mm wide; capitula 4–5 x 3–5 mm, in cymes of up to 24 and inflorescences of up to 1200 capitula; ray florets white, cream or pale yellow, *ca* 32, tube 1.8–2.6 mm long, ray filiform, 0.9–1.4 x <0.2 mm; disc florets cream or pale yellow, 3–6; climber or shrub in forest or at forest edges, in abandoned cultivation, wooded grassland, and streamsides. Widespread in tropical Africa southwards to Angola and Mozambique; also in Madagascar and tropical Asia.

Source. Dowsett-Lemaire (1975); *F.T.E.A. Compositae* (2): 482 (2002).

Malawi. Nyika National Park, Kasewerera, 2001, without collecting details (Patel & Overton 2002).

Nidorella auriculata DC. ❖

Nidorella obovata DC.; *Nidorella auriculata* DC. subsp. *polycephala* (DC.) Wild

Perennial herb 0.9–1.5 m high, with a single stem or several stems from a thickened rootstock; leaves sessile, narrowly panduriform to lanceolate, 40–80 x 10–20 mm, pubescent; capitula 3–4 mm long, several to many in dense globose cymes; axes of inflorescence white-pubescent and glandular; ray florets *ca* 40, golden-yellow, tube 1–1.2 mm long; disc florets *ca* 15, golden-yellow, tube 1.4–1.7 mm long; in disturbed areas, grassy slopes, marshy places or forest margins; flowering July–June. Widespread in tropical and southern Africa.

Source. Mill (1979); Wild (1975: 64); *F.T.E.A. Compositae* (2): 489 (2002).

Malawi. Nyika Plateau, 1959, *Richards 10493* (EA, K).

Nidorella resedifolia DC.

Nidorella rapunculoides DC.; *Nidorella pinnatilobata* DC.

Annual herb 0.3–1 m high; leaves pale green, narrowly obovate, 15–100 x 2–30 mm; capitula 2–5 mm long, united in lax corymbs or cymes; ray florets yellow, 40–58, ray 0.4–0.5 mm long and about as wide; disc florets yellow, 9–20, tube 1.3–1.5 mm long; achenes ellipsoid, 0.7–1.1 mm long, pubescent; pappus of 11–15 barbellate setae 1.5–2 mm long. Cultivated land and waste places such as roadsides. Kenya, Tanzania, D.R.C., Angola, Zambia, Malawi, Mozambique, Zimbabwe, Botswana, and South Africa.

Source. *F.T.E.A. Compositae* (2): 489 (2002).

Malawi. Nyika National Park, Southern Circular route at Chelinda Bridge, 10° 40' 15"S, 33° 51' 21"E, 2000, *Koekemoer 1783A* (PRE).

No country given. 1967, *Richards 22431* (UZL).

Nidorella spartioides (O.Hoffm.) Cronquist

Conyza spartioides O.Hoffm.; *Nidorella malosana* Baker

Erect perennial herb with numerous stems from a woody rootstock, 0.3–0.9 m high; leaves not aromatic, sessile, linear to narrowly ovate, 5–40 x 1–14 mm; inflorescence of dense subglobose cymes; capitula 3–5 mm long, 2–8 together in subglobose cymes; marginal florets yellow, 30–40, tube 1.4–1.7 mm long, 4–5-lobed; disc florets yellow, 22–40, tube 2.1–2.5 mm; papillose-pilose outside; achenes ellipsoid, 0.8–1.2 mm long, pubescent; pappus of 15–25 barbellate to subplumose setae; in submontane grassland and regularly burnt woodland. Malawi, Zambia, and Angola northwards to Nigeria, Sudan, and Kenya.

Source. Patel (1999); Mill (1979); Wild (1975: 71); *F.T.E.A. Compositae* (2): 489 (2002).

Malawi. Nyika Plateau, 1959, *Richards 10491* (BR, EA, K, SRGH).

Osteospermum monocephalum (Oliv. & Hiern) T.Norl. ❖

Tripteris monocephala Oliv. & Hiern; *Tripteris rhodesica* R.E.Fr.

Tripteris giveloensis Mattf.

Perennial herb, 0.05–0.7 m high, stems 1–several from an underground stem; stems sticky; leaves distant, obovate, 20–70 x 2–30 mm, glandular-hairy; capitula 5–8 mm long, sweetly-scented at anthesis, nodding in fruit; ray florets 12–18, ray 12–24 x 3–5 mm, yellow to orange; disc florets numerous, up to 10 mm long, yellow; achenes 13–20 mm long, 3-angular, 3-winged, pale yellow turning crimson or purple; a pyrophyte in annually burned grassland on rocky hillsides. Malawi, Burundi, and Tanzania to Angola and Zimbabwe.

Source. Patel (1999); Brummitt (1973); Mill (1979); *F.T.E.A. Compositae* (2): 532 (2002).

Malawi. Nyika National Park, E. foot of Nganda, 1972, *Synge 363* (MAL, SRGH, BR).

Osteospermum nyikensis T.Norl.

Suffrutescent perennial; stems ascending, to 2 m long, glandular-pubescent; leaves alternate, glandular-pubescent or nearly glabrous, to 60 x 20 mm, margins distantly toothed, teeth to 5 mm long; capitula arranged in a corymbose inflorescence, fruit-bearing heads nodding; ray florets equal in number to the involucre bracts, ligule yellow, about 4–5 times as long as involucre; disc florets yellow; cypselas hard, triangular-obovoid, 5–6 mm long, 3-winged, wings half-transparent, 1–1.5 mm wide; on rocky slopes with shrub and grass cover; *ca* 2,000 m. Endemic to the Nyika Plateau.

Source. Patel (1999); Norlinth (1978: 156).

Malawi. Nyika National Park, Kawozya Hill, 1972, *Brummitt & Synge WC211* (K, holo., MAL, S, SRGH, iso.); Nyika Plateau, 1896, *Whyte 169* (K).

Pentanema indicum (L.) Ling ❖

Inula indica L.; *Vicoa auriculata* Cass.; *Inula leptoclada* Webb

Annual herb, 0.2–1.5 m high; leaves alternate or subopposite, sessile, narrowly lanceolate, 15–100 x 2–20 mm, margins crenate, glandular beneath; capitula 5–8 mm long, in lax panicles; phyllaries glandular, becoming reflexed after achene dispersal; florets orange-yellow, tubular, tube 2.8–3.5 mm long; achenes narrowly ellipsoid, 1–1.2 mm long; pappus 2–3.5 mm long; a pioneer in drying swampy sites; also a crop weed. From Senegal to Ethiopia and southwards to the Zambezi River; also Pakistan, India, Sri Lanka, and Burma.

Source. *F.T.E.A. Compositae* (2): 334 (2002).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Pleiotaxis pulcherrima Steetz ❖

Pleiotaxis latisquama S.Moore

An erect suffrutescent, 0.2–0.8 m high; stems 1–several, annual; leaves discoloured, lanceolate, 60–240 x 20–70 mm, base sheathing the stem; capitula terminal, solitary or 2–4, 20–35 x 12–20 mm; florets numerous, bright red, to 25 mm long; phyllaries 4–24 mm long; achenes 7–11 mm long, hispid; pappus copious, barbellate, 7–17 mm long; in miombo woodland on rocky hillsides or on sandy soil, and in grassland. Zambia, Malawi, Mozambique, Angola, D.R.C., Rwanda, Burundi, and Tanzania.

Source. *Flora zambesiaca* 6(1): 12 (1992).

Malawi. Nyika Plateau, 1973, *Pawek 6571* (K, MAL, MO).

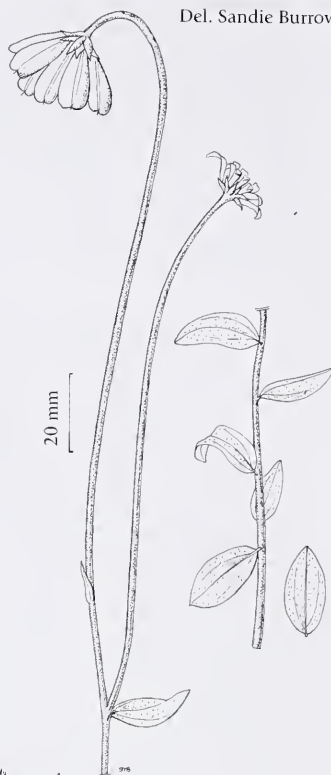
***Pseudognaphalium luteo-album** (L.) Hilliard & Burt ❖

Gnaphalium luteo-album L.; *Gnaphalium oligandrum* (DC.) Hilliard & B.L.Burt

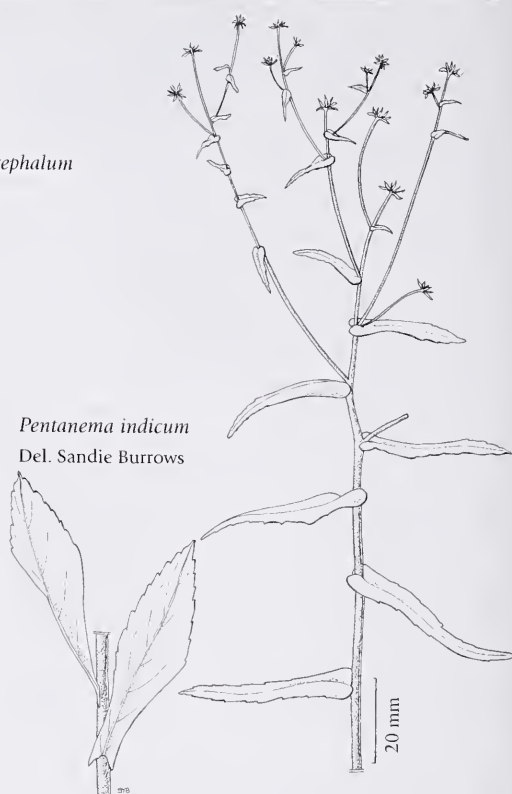
Decumbent or erect annual herb 0.4–1 m high, all parts whitish-woolly; lower leaves oblanceolate, 10–80 x 3–8 mm, decreasing in size and becoming lanceolate to linear upwards, not discoloured; inflorescences of dense glomerules in large corymbose panicle; capitula 3–5 mm long; outer female florets yellow, > 100, filamentous, 1.8–2.3 mm long; disc florets 10–30, 1.5–1.8 mm long; in montane grassland, sandy or clayey soils near streams and marshes, weed of cultivation. Widespread as a weed in the



Nidorella auriculata
Del. Sandie Burrows



Osteospermum monocephalum
Del. Sandie Burrows



Pentanema indicum
Del. Sandie Burrows



Pleiotaxis pulcherrima
Del. Eleanor Catherine



Pseudognaphalium luteo-album
Del. Sandie Burrows

tropics and subtropics.

Source. Mill (1979); Wild (1980: 75); Hilliard (1983: 26); *F.T.E.A. Compositae* (2): 399 (2002).

Malawi. Nyika Plateau, Lake Kaulime, 1958, *Robson 319* (K, PRE, SRGH).

Schistostephium artemisiifolium Baker ❖

Schistostephium homblei De Wild.; *Schistostephium microcephalum*

Baker

Perennial herb with annual shoots from a horizontal rootstock; shoots several, to 0.9 m high, pubescent; leaves grey-green, pinnatifid, broadly ovate in outline, 10–50 × 2–30 mm, pubescent on both surfaces; capitula 4–6 mm long, in terminal corymbs; florets yellow; outer florets few, tube 1 mm long; inner florets >50, tube 1.3–2 mm long; achenes dorsiventrally flattened, angled or winged, 1.5–1.6 × 0.8–0.9 mm. Miombo or wooded grassland. Flowering December to July. Tanzania, D.R.C., Zambia, Malawi, Mozambique, and Zimbabwe.

Source. Patel (1999); Brummitt (1973); Mill (1979); *F.T.E.A. Compositae* (2): 526 (2002).

Malawi. Nyika National Park, W. slopes of Nganda, 1972, *Brummitt & Syngé 62* (K, MAL, SRGH, LISC); Zungwara Circular Road, 2000, *Thera 3068* (MAL); Jalawe Viewpoint, 10° 21' 41"S, 33° 47' 51"E, 2000, *Koekemoer 1862* (PRE).

Schistostephium mollissimum Hutch.

Schistostephium heptalobum S.Moore (1911), non Oliv. & Hiern (1877)

Slender, lax subshrub to 1.2 m high, all parts thinly hairy; leaves sessile, up to 40 mm long, pinnatisect, lobes in 3 or 4 pairs; capitula small, subglobose, up to about 20 corymbosely arranged; flowers bright yellow; on forest margins and in montane scrub. Extra-Malawian distribution uncertain.

Source. Mill (1979).

Malawi. Nyika National Park, 5 miles S.E. of Chelinda on Kasaramba Rd, 1976, *Pawek 11202* (PRE); between Viewpoint and Chisanga Falls, 10° 32' 31"S, 33° 41' 07"E, 2000, *Koekemoer 1712* (PRE).

Senecio erubescens Aiton

Senecio ianthinus Mattf.

Decumbent or erect perennial herb 0.3–0.6 m high, rosette-forming; basal leaves sessile, broadly oblanceolate, 70–210 × 9–700 mm, densely glandular pilose, margins coarsely toothed to denticulate; capitula discoid, 3 to many in lax terminal corymb; disc florets purple, mauve or rarely yellow; achenes 3–3.7 mm long, hispid between ribs; pappus 6–8.5 mm long; in grassland, often in boggy sites; flowering September–June. Tanzania, D.R.C., Angola, Zambia, Malawi, Zimbabwe, Botswana, Swaziland, and South Africa.

Source. *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, without localities or collecting details (Mill 1979, Patel 1999).

Senecio hochstetteri Sch.Bip.

Senecio lugardiae Bullock

Perennial herb 0.25–1.2 m high, rhizomatous, rosette-forming, viscid, stems 1–several from the rosette; basal leaves sessile, narrowly to broadly oblanceolate, 80–380 × 10–100 mm; flowers appearing with or after leaves; capitula discoid, 3 to many in lax or congested corymbs; disc florets white, cream or pale yellow, corolla 5–10 mm long; achenes 2–3.5 mm long, ribbed, shortly hairy; pappus white 5–8 mm long; in grassland, occasionally on forest margins or in wooded grassland. Widespread throughout tropical Africa.

Source. *F.T.E.A. Compositae* (3) (unpublished ms.); Brummitt (2002).

Malawi. Nyika National Park, without localities or collecting details (Mill 1979, Patel 1999).

Senecio inornatus DC.

Senecio lygodes Hiern; *Senecio stolzii* Mattf.

Erect perennial herb 1–2 m high, stems winged in lower part; basal leaves sessile, elliptic-lanceolate, 200–730 × 15–100 mm, gradually attenuate basally, margins denticulate; capitula radiate, numerous in a lax or congested terminal corymb; ray florets yellow, corolla tube 2.5–4 mm long, glandular-hairy; disc florets bright yellow, corolla 5–8 mm long; in up-

land grassland, on forest margins, often abundant near streams. Tanzania, D.R.C., Burundi, Angola, Zambia, Malawi, Zimbabwe, South Africa.

Source. Patel (1999); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, South Circular Route, 10° 39' 54"S, 33° 45' 06"E, 2000, *Koekemoer 1841* (PRE).

Senecio latifolius DC.

Senecio scleratus Schweick.

Perennial herb to 1 m high; crown and lowest nodes woolly, wool hidden deep in leaf axils; leaves glabrous, uniform; heads radiate, rays 5; involucre bracts 7 or 8, (4–)5.5–6.0(–7.0) mm long; achenes glabrous; flowers bright yellow; in grassland or open woodland; flowering July–June. South Africa to Malawi and Angola.

Source. Hilliard (1977: 486).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Senecio oxyriifolius DC.

Senecio orbicularis Sond. ex Harv.; *Senecio peltatus* DC.

Glabrous, sometimes glaucous, fleshy perennial herb, rootstock somewhat creeping, tuberous, tubers woody; flowering stems usually one, to 1 m high; leaves fleshy, up to 25–60 × 38–95 mm, petiole 25–80 mm long; capitula discoid, few to many, corymbosely-paniculately arranged; disc florets pale to golden yellow; achenes 25–32 mm long; pappus 4.7–5 mm long; in grassland to bushy grassland, often in rocky sites. South Africa, Zimbabwe, Malawi, Angola, Zambia, Mozambique, and Tanzania.

Source. Hilliard (1977: 473); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Senecio pachyrhizus O.Hoffm.

Senecio dekindtianus Volkens & O.Hoffm.; *Senecio adustus* S.Moore

Dwarf perennial herb with woody rootstock, multi-stemmed forming small cushions 50–160 mm high; leaves all basal, oblong to elliptic, 130–250 × 10–45 mm, long-attenuate into petioloid base, margins crenate-serrate, stem-leaves scale-like; capitula erect, discoid, terminal, usually solitary; disc florets white or cream, anthers fully exerted, corollas 15.5–20 mm long; pyrophytic in upland grassland, flowering about a month after fire, in large clumps or cushion-forming. Uganda, Tanzania, Cameroon, D.R.C., Angola, Zambia, and Malawi.

Source. Patel (1999); Brummitt (1973); Mill (1979); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, Sawi Valley, 1972, *Syngé 434* (K, MAL, SRGH).

Senecio pergamentaceus Baker ❖

Perennial herb, 600–800 mm high, crown of rootstock woolly; stem leaves sessile, ovate to lanceolate, the median largest, 100–150 × 33–45 mm, margins entire; capitula radiate, numerous in lax corymb; involucre cylindrical, 5.5–6 mm long; ray florets 4–5, yellow, corolla tube 3.5 mm long, rays 8–13 × 2–2.5 mm, 4-veined; disc florets yellow, tube abruptly expanded above the middle; achenes 5 mm long, glabrous, ribbed; pappus 5 mm long, white; in secondary woodland or grassland with *Protea*. Tanzania, Zambia, and Malawi. This is taxon is essentially *S. seniamplexifolius* with rays (*F.T.E.A.*).

Source. Mill (1979); *F.T.E.A. Compositae* (3) (unpublished ms.).

Malawi. Nyika National Park, South Circular Route, 10° 38' 23"S, 33° 45' 46"E, 2000, *Koekemoer 1825* (PRE); between Chelinda Bridge and Dembo River crossing, 10° 32' 38"S, 33° 50' 33"E, 2000, *Koekemoer 1747* (PRE).

Senecio ruwenzoriensis S.Moore

Senecio othonniformis Fourcade; *Senecio paucifolius* DC.

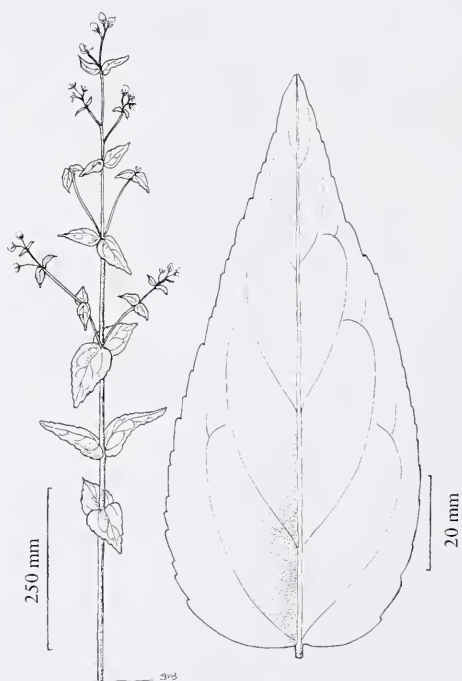
Perennial herb to 1 m high; leaves somewhat fleshy, glabrous, obovate to almost rhombic, 25–115 × 10–53 mm, with two prominent lateral veins from the base, margins entire or distantly callose-denticulate; capitula radiate, 1–20 in lax terminal corymb; rays 5–8, pale to bright yellow, lamina 5–11 × 1.5–3.5 mm, 4-veined; disc florets yellow; in grassland, particularly in shallow soil around rock outcrops, sometimes by streams or as a weed in cultivation. Kenya, Uganda, Tanzania, Nigeria to Sudan, southwards to



Schistostephium artemisiifolium
Del. Sandie Burrows



Senecio pergamenteus
Del. Sandie Burrows



Sigesbeckia abyssinica
Del. Sandie Burrows



Solanecio mannii
Del. Sandie Burrows

South Africa.

Source. *F.T.E.A.* Compositae (3) (unpublished ms.).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Senecio subsessilis* Oliv. & Hiern**

Perennial herb, woody herb or weakly woody shrub 0.45–3.0 m high, stem hairy; leaves tomentose, basal leaves petiolate, to 270 mm wide, upper leaves lanceolate, 110–500 × 30–130 mm; capitula radiate usually numerous in congested to lax corymbiform cyme; ray florets pale to bright yellow, 5–8(–12), rays 6–18 × 2–5 mm, 4–10-veined; disc florets yellow, corolla 6.5–9 mm long; in montane bush land, *Hagenia* woodland or forest, often in clearings, Ethiopia and Sudan to D.R.C. and Tanzania; not recorded from Malawi.

Source. *F.T.E.A.* Compositae (3) (unpublished ms.).

Malawi. Nyika National Park, without localities or collecting details (Mill 1979, Patel 1999).

***Senecio syringifolius* O.Hoffm.**

Senecio nyikensis Baker

Liana twining to 1.5–10 m high, rather succulent, stems up to 15 mm in diameter; leaves rather succulent, glossy, triangular, 38–10 × 15–90 mm; capitula discoid, many in usually dense, spreading terminal compound corymbs; disc florets ca 20, yellow or creamy yellow, corolla 6.5–9 mm long; achenes 3–4 mm long, ribbed, glabrous; pappus 5–9 mm long; in evergreen forest and on forest margins. Kenya, Uganda, Tanzania, Rwanda, and Malawi.

Source. Patel (1999); Mill (1979); *F.T.E.A.* Compositae (3) (unpublished ms.); Patel & Overton (2002).

Malawi. Nyika National Park, Zovichipolo and High Plateau (Dowsett-Lemaire 1985: 320).

Zambia. Nyika Plateau, Chowo Forest (Dowsett-Lemaire 1985: 320).

***Sigesbeckia abyssinica* (Sch.Bip.) Oliv. & Hiern ✧**

Linnogenneton abyssinicum Sch.Bip.

Annual herb to 1 m high; leaves petiolate, up to 80(–100) × 30(–40) mm, narrowly ovate to ovate, 3-nerved from the base; inflorescence laxly paniculate, up to 200 mm diameter; capitula ca 7 mm diameter; ray florets yellow, lamina ca 1 mm long, tube 0.7 mm long, glandular; disc florets yellow; usually by streams or in seasonally moist grasslands. Cameroon, Ethiopia, Kenya, Uganda, Tanzania, and Malawi.

Source. Wild (1967: 37).

Malawi. Nyika Plateau, 1896, *Whyte* 245 (K).

***Solanecio mannii* (Hook.f.) C.Jeffrey ✧**

Crassocephalum mannii (Hook.f.) Milne-Redh.; *Senecio mannii* Hook.f.

Erect softly woody shrub or small tree 1–8(–10) m high, stems thick and succulent, green with prominent persistent leaf scars, branching dichotomously; leaves crowded towards the apices of branches, obovate or elliptic, 100–550 × 20–160 mm, margins sinuate-serrate; capitula discoid, very numerous in large corymbs; disc florets yellow, rarely orange or white, corolla 4.5–8.5 mm long; in forest glades or margins, bush land, and rocky slopes. Throughout tropical Africa from Zimbabwe northwards.

Source. *F.T.E.A.* Compositae (3) (unpublished ms.).

Malawi. Nyika National Park, Juniper Forest and Nkhonjera Hill (Dowsett-Lemaire 1985: 348, 350).

***Sonchus luxurians* (R.E.Fr.) C.Jeffrey**

A somewhat robust perennial herb from a semi-woody rootstock; stems trailing or scrambling to ca 2(–6) m long, or erect and up to 1 m high; capitula many, densely clustered; corollas yellow; ligule 4.5–5 mm long; pappus white, dimorphic, 8–10 mm long, minutely barbellate setae intermixed with down-like hairs; in thickets or dense vegetation on forest margins or on forested stream banks; also in disturbed ground; above 1,000 m. Widespread in Central Africa.

Source. *Flora zambesiaca* 6(1): 227 (1992).

Malawi. Nyika National Park, without localities or collecting details (Mill 1979, Patel 1999).

****Sonchus oleraceus* L. ✧**

A stout erect annual herb ca 0.15 m high; lower leaves crowded, to 280 × 90 mm, usually pinnately lobed; capitula stalked, many in corymbiform cymes; involucre to 13 mm long; corollas yellow, ligule ca 5.5 mm long, strap-shaped; achenes light to reddish brown, to 3 × 1 mm, with many ribs, ribs minutely muricate with numerous retrorse projections; a widespread cosmopolitan weed of gardens, irrigation schemes, and roadsides. A native of Eurasia and N. Africa.

Source. *Flora zambesiaca* 6(1): 229 (1992).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Sonchus schweinfurthii* Oliv. & Hiern**

An erect robust perennial plant 1–1.5 m high, stems solitary, branching above; leaves ascending, 360 × 60 mm, entire or dentately to pinnately-lobed; capitula solitary or in small clusters; phyllaries olive-green to purplish, imbricate; corollas yellow; ligule 3–4 mm long, strap-shaped, reddish tinge outside; in seasonal or permanent wet soil, beside streams, dams or irrigation furrows; often as a ruderal or in cultivated or disturbed ground on roadsides in moist localities. Widespread in Central Africa S. of the Sahara.

Source. Mill (1979); *Flora zambesiaca* 6(1): 224 (1992).

Malawi. Nyika National Park, close to Chosi Viewpoint, 10° 36' 46"S, 33° 45' 24"E, 2000, *Koekemoer* 1690 (PRE).

No country given. 1967, *Richards* 22452 (UZL).

***Stoebe kilimandscharica* O.Hoffm. ✧**

Stoebe elgonensis Mattf.

Much branched shrub or tall tree up to 6 m; leaves linear, ericoid, involute, adaxial surface woolly-hairy; inflorescences spike-like or open panicle; capitula 1-flowered; nectaries absent; pappus 16–20, plumose, slightly fused at the base; on mountain slopes at high altitudes, often on the edge of forests; 2,400–3,000 m. Malawi, Kenya, Tanzania, Uganda, and D.R.C.

Source. *F.T.E.A.* Compositae (2): 452 (2002).

Malawi. Nyika Plateau, 2,400 m, 1946, *Brass* 17319 (PRE, K, BM); along the road about halfway between Chelinda and Juniper Forest, 10° 41' 44"S, 33° 57' 09" E, 2000, *Koekemoer* 1918 (PRE); *ibid.*, 2000, *Burrows & Burrows* 6915 (Buffselskloof Herbarium); Jalawe Viewpoint, 10° 21' 41"S, 33° 47' 51"E, 2000, *Koekemoer* 1864 (PRE).

***Stomatanthes africanus* (Oliv. & Hiern) R.M.King & H.Rob. ✧**

Eupatorium africanum Oliv. & Hiern; *Vernonia nialosana* Baker

Perennial sub-shrub 0.2–1.2 m high with 1–several stems arising from a woody rootstock 10–35 mm diameter, stems erect, rigid, woody, somewhat branched; leaves alternate to sub-opposite, sessile to shortly petiolate, petiole to 6 mm long, margins often slightly thickened, entire to serrate; capitula 8–14 × 3–6 mm, in dense corymbs; florets 4–5, corolla 5–7 mm long, whitish; a pyrophyte, often found on recently burnt highland grassland; also in woodlands, growing in dense clumps. Widespread throughout Africa.

Source. *F.T.E.A.* Compositae (3) (unpublished ms.); Patel (1999).

Malawi. Nyika National Park, Mwanda Mountain slope, 2000, *Willis* 190 (PRE); Vitinthiza Hill slopes, 2000, *Salubeni & Mwanyambo* 6808 (MAL).

No country given. 1967, *Richards* 22499 (UZL).

***Stomatanthes zambiensis* King & Robins.**

Plants erect, to 1 m high; stems densely tomentose; leaves membranous, broadly elliptic, 30–70 × 5–15 mm; apex acute; margins serrate; inflorescence in a lax cyme; capitula 4–5-flowered; achenes with 5 ribs; pappus bristles scabrid. Grassland. Malawi, Zambia.

Source. Patel (1999); King & Robinson (1975).

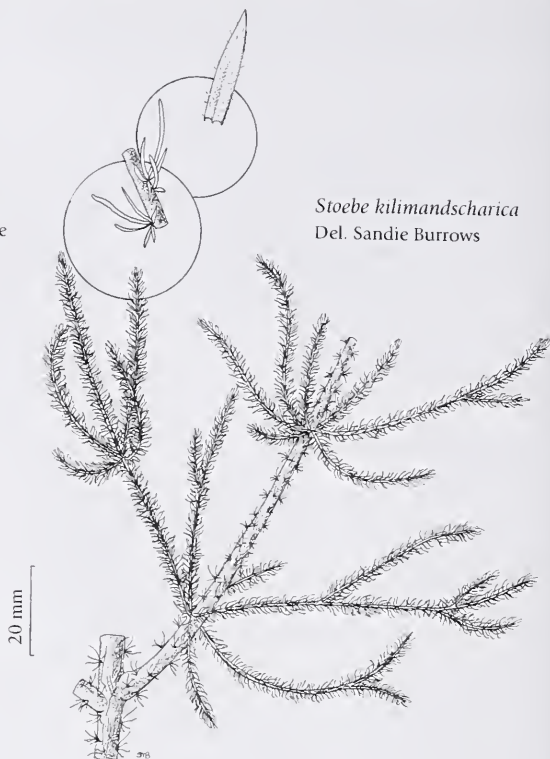
Malawi. Rumphi District: Nyika, Chowo Rock, 1970, *Pawek* 3437 (K).

****Tagetes minuta* L. ✧**

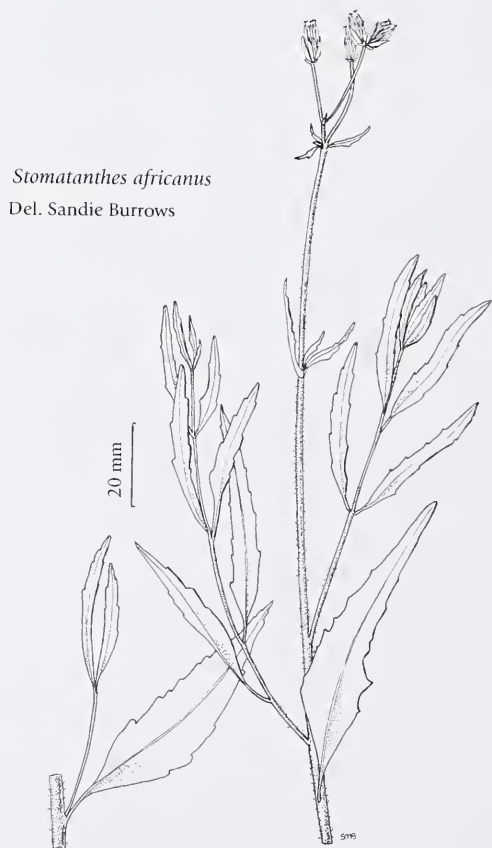
Annual herb, 100–2,500 mm high, almost woody; whole plant aromatic; stems much branched in larger plants; leaves mostly opposite, but often alternate in upper part of plants, dark green, pinnatisect, 30–300 × 7–80 mm, glandular with orange glands; capitula many in dense terminal corymbs, narrowly cylindric; ray florets 2–3, pale yellow to cream, ray 2–3.5 mm



Sonchus oleraceus
Del. Eleanor Catherine



Stoebe kilimandscharica
Del. Sandie Burrows



Stomatanthus africanus
Del. Sandie Burrows



Tagetes minuta
Del. Sandie Burrows

long; achenes black, 6–7 mm long, pilose; pappus of 1–2 setae to 3 mm long and 3–4 scales to 1 mm long. A weed of cultivation or post-cultivation. Widespread.

Malawi. Nyika National Park, near road on the way to Thazima, 2000, *Izidine* 43 (LMA).

***Tolpis capensis* (L.) Sch.Bip. ❖**

Hiieracium capense L.; *Crepis ephemera* Hiern

An erect scapose perennial herb from a stout semi-woody taproot; root crowns lanate; leaves 2–8 sub-rosulate, rarely 1 or 2 cauline, 40–50 x 10–15 mm; capitula laxly corymbiform; disc florets numerous, 9–10.5 mm long; ray florets yellow often drying greenish; pappus of 20–30 persistent rigid barbellate setae 5–7 mm long, often with outer whorl of minute setae; an infrequent pyrophyte of grassland, seasonally moist areas, and open deciduous woodland. Widespread in central and southern Africa; also in Madagascar.

Source. Mill (1979); *Flora zambesiaca* 6(1): 190 (1992).

Malawi. Nyika Plateau, 1,870 m, 1975, *Pawek* 10228 (K, MAL, MO, SRGH, UC); between Viewpoint and Chisanga Falls, 10° 32' 31"S, 33° 41' 07"E, 2000, *Koekemoer* 1710 (PRE).

***Tolpis mbalensis* G.V.Pope**

An erect perennial herb up to ca 0.1 m high from a semi-woody taproot, root crown lanate; leaves cauline (4–)7–15.5(–19.5) x (0.5–)1–3.5(–5), narrowly oblanceolate to narrowly obovate; capitula few to many, laxly corymbiform cymose or paniculate; disc florets 5–7 mm long; rays 7–10 mm, strap-shaped, drying greenish; a pyrophyte of short submontane grassland, high-rainfall plateau grasslands, and woodlands, in sandy and rocky soils and escarpments. Recorded from N. Zambia and N. Malawi only.

Source. *Flora zambesiaca* 6(1): 192 (1992).

Malawi. Nyika Plateau, Chisanga Falls, 1989, *Pope*, *Radcliffe-Smith* & *Goyder* 2311 (K, LISC).

***Vernonia acrocephala* Klatt.**

Scapose perennial herb, 30–300 mm high from a thickened rootstock, root crowns densely brown-lanate; leaves appearing with or after the flowers; leaves membranous, ca 80 x 30 mm; capitula solitary, involucre 11–17 x 15–20 mm; corollas purple or mauve; a pyrophyte of dambos, submontane grassland, and moist deciduous woodlands. Malawi, Zambia, Tanzania, D.R.C., Angola, and Cameroon.

Source. Patel (1999); Mill (1979); *Flora zambesiaca* 6(1): 120 (1992).

Malawi. Nyika Plateau, Nganda Peak, 2,470 m, 1974, *Pawek* 7915 (K, MO, SRGH, MAL).

No country given. 1960, *Coxe* 19 (UZL).

***Vernonia adoensis* Sch.Bip.**

Vernonia integra S.Moore

An erect, course perennial herb or subshrub, 0.3–3 m high; leaves of upper stem subsessile or shortly petiolate; lamina lanceolate, narrowly cuneate at base, tomentose to sparsely pubescent or glabrescent below; phyllaries white hispid or puberulous; capitula solitary or few in much reduced corymbiform cymes; florets 120–300 per capitulum; corollas whitish or mauve; in wooded grassland, miombo and other woodland, often beside streams. From Nigeria and Ethiopia southwards through D.R.C. to Zimbabwe.

Source. Mill (1979); *Flora zambesiaca* 6 (1): 124 (1992).

Malawi. Nyika Plateau, 1896, *Whyte* s.n. (K); Mbuzinandi, 2000, *Salubeni* & *Mwanyambo* 6822 (MAL).

***Vernonia alticola* G.V.Pope**

An erect, tufted perennial herb, 0.09–0.4(–1) m high from a woody rootstock; leaves numerous, adpressed-ascending to spreading, cauline leaves 15–50 x 4–11 mm, elliptic, shortly petiolate, margins entire or sometimes subserrate, lamina markedly discoloured; capitula numerous in a terminal corymbiform cymose arrangement; corollas mauve or purple; outer pappus of very short linear-lanceolate scales; inner pappus 4–5.5 mm long; in submontane grassland, often in moist localities. Malawi, Zambia, and Tanzania.

Source. Patel (1999); *Flora zambesiaca* 6(1): 97 (1992).

Malawi. Nyika Plateau, Chelinda Dam, 2,340 m, 1969, *Pawek* 2796 (K).

Zambia. Nyika Plateau, Chowo Forest, 2,230 m, 1967, *Richards* 22533 (K).

***Vernonia amblyolepis* Baker**

A erect slender stiff scabrid perennial herb up to 1.7 m high from a woody rootstock with long fibrous roots, stems annual; leaves shortly petiolate, 30–120 x 3–30 mm, oblong-lanceolate; capitula numerous, small, very shortly stalked and densely clustered at the ends of branches; florets up to ca 50 per capitulum; corollas purple, 6–9 mm long; in submontane grassland and moist places beside streams, and at lower altitudes in dambos in high-rainfall miombo woodland. Malawi, Zambia, and Tanzania.

Source. Patel (1999); *Flora zambesiaca* 6(1): 110 (1992).

Malawi. Nyika Plateau, ca 8 km N.W. of Lake Kaulime, 2,020 m, 1970, *Brummitt* 10826 (K, LISC, MAL, SRGH).

***Vernonia amygdalina* Delile**

Vernonia randii S.Moore

A many-stemmed shrub or small tree up to ca 8 m high; leaves petiolate, lamina 70–140 x 30–40 mm; capitula very numerous in terminal, divaricately branching, rounded panicles; florets 10–24 per capitulum; corollas whitish, sweet-scented; in riverine forest, woodland, and thicket, grassland bordering rivers and streams, and on the margins of seasonally waterlogged grassland (marshes), usually on alluvium, occasionally on termitaria; flowering August–October. Throughout tropical Africa, the Gulf of Guinea islands, and South Africa.

Source. Mill (1979); *Flora zambesiaca* 6(1): 70 (1992).

Malawi. Nyika National Park, between viewpoint and Chisanga Falls, 10° 32' 31"S, 33° 41' 07"E, 2000, *Koekemoer* 1721 (PRE).

***Vernonia bainesii* Oliv. & Hiern subsp. *bainesii* ❖**

Vernonia buchananii Baker

A diffuse or somewhat spreading perennial herb to 0.6(–1.2) m high from a woody rootstock, stems annual; leaves filiform or linear, 6–30 x 2 mm, markedly revolute; capitula solitary; phyllaries coriaceous, rounded or obtuse mucronate to acute at the apex; corolla purple; outer pappus of short narrow scales, inner barbellate setae 6–8 mm long; usually in submontane grassland. Malawi, Zambia, Zimbabwe, Mozambique, Tanzania, and South Africa.

Source. Patel (1999); Mill (1979); *Flora zambesiaca* 6(1): 102 (1992); Wild (1978: 53).

Malawi. Nyika National Park, between Chisanga Falls and Kaperekezi Gate, 2000, *Salubeni* & *Mwanyambo* 6838 (MAL); Chelinda Bridge, 2000, *Mwanyambo* 537 (MAL); Jalawe Viewpoint, 2000, *Thera* 3102 (MAL); between Chelinda and Chisanga Falls, 10° 34' 32"S, 33° 40' 57"E, 2000, *Koekemoer* 1722 (PRE).

Zambia. Nyika National Park, 0.5 km S.W. of Zambian Government Rest House, 1986, *Philcox*, *Pope* & *Chisumpa* 9961 (BR, K, MO, NDO, SRGH).

***Vernonia biafrae* Oliv. & Hiern**

A diffuse scandent shrub to 3 m high; leaves membranous, petiole to 15 mm long, lamina to 70 x 45 mm, sparsely pilose on both sides; capitula numerous, grouped in dense clusters of 5–30 or in large terminal panicles; florets 8–10 per capitulum; corollas pale-mauve to creamy-white, ca 6 mm long; achenes pale-brownish, 2.5–3 mm long, narrowly cylindric tapering somewhat to the base, 5-ribbed; outer pappus of short narrow scales; on submontane forest margins. Widespread in tropical Africa to Sudan and Ethiopia.

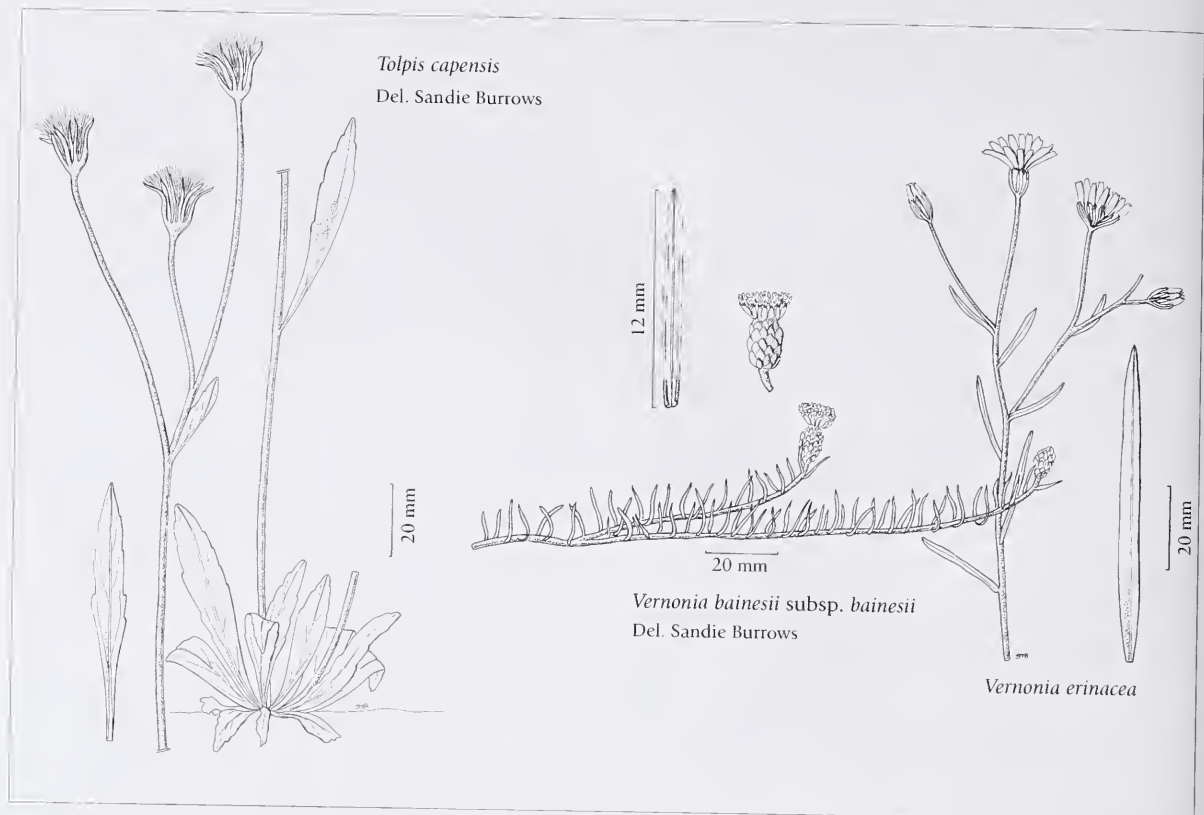
Source. *Flora zambesiaca* 6(1): 80 (1992).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Vernonia calyculata* S.Moore**

Vernonia natalensis var. *sensu* Britten (1894).

An erect, slender perennial herb up to 0.75 m high from a woody rootstock, stems annual; leaves few to numerous, up to 40 mm long and linear, or up to 95 x 12 mm and very narrowly elliptic; capitula in one to many dense terminal clusters, corymbiform cymosely arranged in inflorescences; corolla purple, 4–7 mm long; a pyrophyte of dambos, or high-rainfall miombo and mixed deciduous woodland. Malawi, Zambia, Mozambique,



Tolpis capensis
Del. Sandie Burrows

Vernonia bainesii subsp. *bainesii*
Del. Sandie Burrows

Vernonia erinacea

Tanzania, and Angola.

Source. Patel (1999); Mill (1979); *Flora zambesiaca* 6(1): 98 (1992).

Malawi. Rumph District, Kaziwiziwe River, 1959, *Richards* 10564 (BR, K, LISC, SRGH).

Vernonia chloropappa Baker

Erect annual herb 0.3–0.8 m; stems sparsely leafy, simple, becoming laxly branched, longitudinally ribbed; leaves largest about mid-stem, up to 80 x 10 mm, linear-oblongate; capitula solitary on long branches or 2(–3) on stout stalks; involucre 9–11 mm; corollas white, cream or reddish mauve, seldom purple; inner pappus emerald-green, setae 7–8 mm long; in *Brachystegia* and *Uapaca* woodland, Malawi, Zambia, and Tanzania.

Source. Brummitt (1973); Mill (1979); *Flora zambesiaca* 6(1): 145 (1992).

Malawi. Nyika National Park, Sawi Valley, 1972, *Synge* 411 (K, MAL, SRGH); Nchenachena Spur, 1,400 m, 1946, *Brass* 17368 (K, MAL, MO, PRE, SRGH).

Vernonia colorata (Wild) Drake subsp. *oxyura* (O.Hoffm.) C.Jeffrey

Vernonia oxyura O.Hoffm.; *Vernonia cirrifera* S.Moore

Shrub or small tree up to 6 m high; leaves elliptic to broadly oblong-elliptic or ovate, 60–210 x 30–100 mm; capitula numerous in terminal paniculate corymbs up to 280 mm across; involucre more than 7 mm long, wider than long; florets 10–26 per capitulum, mauve fading to whitish; outer pappus caducous, linear scale-like; inner pappus copious, reddish, 7–8 mm long, barbellate; on rocky slopes and hillsides in miombo or mixed deciduous woodland. Malawi, Zambia, Mozambique, Kenya, Tanzania, and D.R.C.

Source. *Flora zambesiaca* 6(1): 70 (1992).

Malawi. Rumph, ca 80 km from Chisungu on Njakwa-Chisungu Road, 1962, *Richards* 16791 (K, M) [doubtfully on Nyika]; without locality or collecting details (Patel 1999).

Vernonia erinacea Wild ❖

Crystallipollen angustifolium Steetz; *Vernonia poskeana* var. *vulgaris* Hiern

A slender or robust annual herb, 0.1–2 m high; stems simple or diffusely

branched; leaves sessile, to 100 x 5 mm, filiform to linear, upper surface pubescent, gland-dotted on both surfaces; capitula few to many in panicle; corollas purple, to 7.5 mm long, exerted beyond the involucre; in savanna and grassland, sometimes in dambos; also in disturbed ground at roadsides and a weed of cultivation. Zambia, Zimbabwe, Malawi, Mozambique, Tanzania, D.R.C., and South Africa. Not recorded for Nyika in *Flora zambesiaca*.

Source. *Flora zambesiaca* 6(1): 148 (1992).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Vernonia exsertiflora Baker var. *exsertiflora*

Vernonia kreismannii Welw. ex Hiern; *Vernonia sphaerocalyx* Welw. ex Hiern

A bushy shrub or small branched tree to 6 m; stems with grey, rough, longitudinally fissured bark, branches densely hairy, hairs T-shaped; leaves ovate to lanceolate, to 230 x 90 mm, petiolate, petiole to 40 mm long; capitula very numerous in dense clusters to 180 mm diameter; florets 4–20 per capitulum, corollas purplish-mauve or fading white, 7–11 mm long; usually on rocky hillsides in dry deciduous woodland or scrubland. Malawi, Zambia, Zimbabwe, and Tanzania. Not recorded for Nyika in *Flora zambesiaca*.

Source. *Flora zambesiaca* 6(1): 73 (1992).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Vernonia fractiflexa Wild

Erect perennial herb to 0.3 m high from a woody rootstock; stems annual, several, zigzag; leaves sessile to 55 x 14 mm, narrowly oblong to oblong-lanceolate or somewhat elliptic, gland-pitted and sparsely finely pilose on both surfaces; capitula solitary, terminal; involucre ca 15 x 2.5 mm; corollas purple, 12–14 mm long; achenes 4–5 mm long, narrowly cylindric, 10-ribbed, sparsely puberulous, glandular between ribs; outer pappus scales to 2 mm long; inner pappus of barbellate setae to 10 mm long; in frequently burnt montane grassland. Endemic to the Nyika Plateau.

Source. *Flora zambesiaca* 6(1): 108 (1992); Wild (1978: 8).

Malawi. Nyika Plateau, Chelinda, 1967, *Richards* 22687 (K, holo.); towards Nganda Peak, 2,440 m, 1974, *Pawek* 7911 (K, MO, MAL, SRGH).

***Vernonia gerberiformis* Oliv. & Hiern**

Low-growing scapose herbs, scapes usually white-woolly-pubescent, root crown lanate; leaves numerous basal or clustered on lower stem, 150–360 x 15–20 mm; capitula solitary, terminal, involucre 12–25(–30) x 15–45(–50) mm; corollas cornflower-blue to mauve, 15–30 mm long; a pyrophyte of dambos, seasonally wet grassland, and submontane grassland. Zambia, Zimbabwe, Malawi, Sudan, Uganda, Kenya, Tanzania, D.R.C., and Angola. Not recorded for Nyika in *Flora zambesiaca*.

Source. *Flora zambesiaca* 6(1): 93 (1992).

Malawi. Nyika National Park, without localities or collecting details (Mill 1979, Patel 1999).

***Vernonia griseopapposa* G.V.Pope**

Perennial herb up to 0.4 m high from a thickened vertical rootstock; stems erect, densely strigose or tomentose; basal leaves crowded or subrosulate, 125–140 x 18–25 mm, linear-oblongate, lamina sparsely hispid or glabrous, gland-pitted; capitula 1–2 at the end of branches; involucre to 10 mm long; corollas pale mauve or whitish, ca 8 mm long; in montane grassland usually over 2,000 m. Nyika Plateau and Burundi.

Source. Patel (1999); *Flora zambesiaca* 6(1): 111 (1992).

Malawi. Nyika Plateau, without locality, 2,200 m, 1968, Pawek 2105 (K); Juniper Forest, 10° 45' 06" S, 33° 53' 15" E, 2000, Koekemoer 1885 (PRE).

Zambia. Nyika Plateau, 0.5 km S.W. of Government Rest House, 1986, Philcox, Pope & Chisumpa 9967 (K, holo., BR, GA, LISC, M, MO, NDO, SRGH, UPS, WAG, iso.).

***Vernonia karaguensis* Oliv. & Hiern**

Vernonia botrioclinoides C.H.Wright; *Vernonia porphyrolepis* S.Moore. Slender, erect perennial herb to 2 m high from a small woody rootstock; stems annual, 1 to several, branched above, densely pubescent; leaves subsessile, to 120 x 40 mm, lanceolate-oblong, lower surface densely tomentose; capitula very numerous, in clusters in terminal panicles; involucre 4–7 mm long; corolla purple, 7–8 mm long; in high-rainfall miombo woodland, often near streams. Zimbabwe and Mozambique to Angola, Nigeria, Sudan, and Ethiopia.

Source. *Flora zambesiaca* 6(1): 103 (1992).

Malawi. Nyika National Park, Chelinda Bridge, 10° 31' 54"S, 33° 50' 47"E, 2000, Koekemoer 1741 (PRE).

***Vernonia kawoziensis* F.G.Davies**

A tufted perennial herb, to 0.75 mm high from a woody rootstock; stems annual, many, simple, ribbed and sparsely hispid; leaves subsessile, to 60 x 23 mm, lamina leathery; capitula 3–13, corymbiform, on stiff stalks to 70 mm long; involucre to 20 mm long; corolla deep blue, 17–19 mm long; achenes 7–9 mm long, subcylindric, 10-ribbed; outer pappus of short scale-like setae; inner pappus of flattened subplumose setae ca 13 mm long; in miombo woodland. Endemic to the Nyika Plateau.

Source. Patel (1999); *Flora zambesiaca* 6(1): 88 (1992).

Malawi. Nyika National Park, Mt. Kawozya, 1,890 m, 1972, Brummitt and Syngé WC178 (K, holo., MAL, SRGH).

Vernonia melleri* Oliv. & Hiern var. *melleri

Vernonia scabrifolia var. *amplifolia* O.Hoffm.

An erect, scabrid perennial herb, 0.3–1.5 m high from a woody rootstock, stems annual; leaves 40–190 x 20–60 mm, obovate to narrowly oblanceolate; capitula 4–21, solitary and terminal; corolla 18–25 mm long, yellowish brown below, cornflower-blue or purplish above; outer pappus of 2.5–5 mm long barbellate, scale-like setae, inner copious, 10–14 mm long, barbellate; in miombo and other deciduous woodland or grassland. Malawi, Botswana, Zambia, Zimbabwe, Mozambique, Angola, D.R.C., and Tanzania.

Source. Mill (1979); *Flora zambesiaca* 6(1): 91 (1992).

Malawi. Rumph–Nyika Road, 1,375 m, 1973, Pawek 6577 (K, MO, MAL).

***Vernonia muelleri* Wild subsp. *brevicuspis* G.V.Pope**

Vernonia jugalis var. *jugalensis* sensu Wild; *Vernonia jugalis* var. *dekindtii* sensu Wild

Lax bushy perennial herb or subshrub to 2.6 m high; leaves petiolate, up to 160 x 50 mm, cuneate at base, sparsely puberulous to glabrescent beneath;

capitula laxly arranged in many 3- to 9-capitulate clusters; involucre 10–15 mm long; outer phyllaries pungent-aristate or cuspidate, apical bristles less than 2 mm long; corolla pale-mauve to whitish, ca 10 mm long; outer pappus of short, narrowly oblong scales, inner of caducous stramineous barbellate setae 6–8 mm long; in high-rainfall woodland, often beside rivers. Zambia, Tanzania, D.R.C., and Malawi.

Source. *Flora zambesiaca* 6(1): 77 (1992).

Malawi. Nyika Plateau, 1,200–1,800 m, 1896, Whyte s.n. (K).

***Vernonia musofensis* S.Moore var. *miamensis* (S.Moore)**

G.V.Pope

Erect slender perennial herb 0.2–0.5 m tall, with sparsely hairy or hairless stems; leaves sessile, narrowly oblong to oblong-lanceolate, 110–150 x 80–250 mm; corolla purple to creamy white; in miombo woodland and grassland; 1,000–1,700 m. Mozambique and Zambia to Nigeria, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 6(1): 105 (1992).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Vernonia myriantha* Hook.f.**

Vernonia anpla O.Hoffm.; *Vernonia stipulacea* Klatt

A spreading shrub 1.5–6 m high, stems angular when young; petiole to 70 mm long, leaves to 400 x 150 mm, oblong-elliptic, margins irregularly serrate to coarsely serrate-dentate with callose-tipped teeth, upper surface sparsely hairy, lower surface grey-green pubescent; capitula small, very numerous, in subglobose clusters in panicles; involucre 5–7 x 2.5–5 mm; florets 2–6 per capitulum, corollas whitish or pale mauve to purple, ca 7 mm long; in moist localities, including high-rainfall woodland, riverine vegetation, wet or marshy grassland, and evergreen forest margins. Widespread in tropical Africa.

Source. Patel (1999); *Flora zambesiaca* 6(1): 82 (1992).

Malawi. Nyika National Park, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 323).

Zambia. Nyika Plateau, Manyenjere, Kasoma and Chowo Forests (Dowsett-Lemaire 1985: 323).

***Vernonia natalensis* Sch.Bip. ex Walp.**

Vernonia pseudonatalensis Wild

A erect tufted perennial herb to 1.2 m high from a woody rootstock; capitula numerous in a dense terminal corymbiform cymose arrangement up to 250 mm across; corolla purple, 5–7 mm long; outer pappus of very short, linear, acuminate scales, inner pappus 4.5–6 mm long, barbellate. The variant from the mountains of N. Malawi, N.E. Zambia, and S.W. Tanzania has leaves which are more elliptic, shorter, more discolorous and thinner in texture than in the other two variants; a pyrophyte of dambos, grassland, and *Brachystegia-Uapaca* woodlands. Widespread in eastern Africa, from Kenya to Angola and South Africa.

Source. Patel (1999); *Flora zambesiaca* 6(1): 95 (1992).

Malawi. Nyika National Park, along road from Chelinda Camp to Chisanga Falls, 10° 36' 46"S, 33° 45' 24"E, 2000, Koekemoer 1706 (PRE); between Chelinda Bridge and Dembo River crossing, 10° 32' 38"S, 33° 50' 33"E, 2000, Koekemoer 1745 (PRE); N. of Lake Kaulime, Kaulime River, 2000, Willis & Luhanga 117 (PRE); Wovwe River, 2000, Willis 152 (PRE).

Zambia. Nyika Plateau, 1962, Fanshawe 7276 (K).

***Vernonia nestor* S.Moore**

Erect hispid-villous perennial herb, to 0.9 m high, from a slender contorted woody rootstock; stems annual; leaves sessile, stiff, to 95 x 20 mm; capitula numerous, shortly-stalked; involucre 7–10 mm long; corollas purple, to 8 mm long; achenes 1.5–2.5 mm long, oblong-turbinate, narrowly 5–6-ribbed, uniformly strigulose-pubescent; outer pappus of short scales 1–1.5 mm long; inner pappus of barbellate setae 6.5–7 mm long; in miombo woodland, often in sandy soils. Zambia, Malawi, Mozambique, Tanzania, and W. Africa.

Source. *Flora zambesiaca* 6(1): 106 (1992).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Vernonia oligocephala Sch.Bip.

Erect, herbaceous perennial to 0.75 m tall, multiple flowering branches from a woody rootstock; leaves elliptic, dark green above, silvery below; capitula disciform, ca 10 mm diameter, in large numbers terminal on branches; flowers bright violet; a pyrophyte of wooded grasslands and grasslands. From Tanzania and D.R.C. to Namibia and South Africa, but not recorded from Malawi in *Flora zambesiaca*. The leaves and twigs are used medicinally in South Africa.

Malawi. Nyika National Park, without localities or collecting details (Mill 1979, Patel 1999).

Vernonia praemorsa Muschl. ●

Vernonia castellana S.Moore; *Vernonia kultuina* S.Moore

Erect perennial herb, 0.1–0.7 m high from a woody rootstock, stems annual; leaves appearing before or with the flowers, mostly subsulate, ascending, 2–8 basal; capitula numerous in a dense terminal cluster 25–60 mm across; corollas purple to mauve; in dambos and submontane grassland and in high-rainfall miombo woodland. Malawi, Zambia, Tanzania, D.R.C., and Angola.

Source. Patel (1999); Mill (1979); *Flora zambesiaca* 6(1): 116 (1992).

Malawi. Nyika Plateau, Buma area, road to Rukuru Bridge, 2,250 m, 1967, Richards 22638 (K, M, SRGH).

Vernonia stenocephala Oliv.

Vernonia ocephala Baker

Erect, leafy perennial herb to 1.3 m high, one to several stems from rootstock, soon becoming leafless below, usually much-branched above; cauline leaves linear-elliptic, ca 70 × 22 mm, branch leaves mostly ericaceous, 10–30 × 1–3 mm; capitula numerous, densely paniculate at stem apex; corollas white or creamy-white; in miombo woodland. Malawi, Zambia, Mozambique, Nigeria, Burundi, Tanzania, D.R.C., and Angola. The specimen from Chelinda Bridge (2000, *Izidine* 51 (LMA)) is perhaps a misidentification since the habitat is pure montane grassland.

Source. *Flora zambesiaca* 6(1): 78 (1992).

Malawi. Nyika Plateau, 2,270 m, 1903, McClounie s.n. (K).

Vernonia suprafistigiata Klatt.

An erect, laxly spreading subshrub or shrub, 0.15–4 m high, from a woody base, usually leafless when flowering; leaves petiolate, ca 85 × 30 mm, narrow elliptic to obovate-oblongate; capitula borne, 1–7, on numerous abbreviated lateral shoots; florets 9–12(–17) per capitulum, purple or mauve, paler below; in various types of mixed deciduous woodland, including miombo, *Brachystegia/Uapaca*, *Colophospermum mopane*, and *Kirkia* woodland, often on rocky hillsides and escarpments. Malawi, Zambia, Zimbabwe, Tanzania, D.R.C., and Angola.

Source. *Flora zambesiaca* 6(1): 84 (1992).

Malawi. Nyika Plateau, 2,290 m, 1903, McClounie 65 (K).

Vernonia syringifolia O.Hoffm.

Shrub, sometimes scandent, to 6 m high; leaves membranous, petaloid, petiole 10–30 mm, lamina 13 × 6 mm, ovate-lanceolate, apex tapering acuminate; capitula numerous, densely clustered, 3–6 mm across; florets 15–

20 per capitulum; corollas pale mauve to whitish, sweet scented; outer pappus fringe-like, inner barbellate, 5–6 mm long; in submontane evergreen forest margins. Zambia, Malawi, Sudan, Uganda, Rwanda, Kenya, Tanzania, and D.R.C.

Source. Dowsett-Lemaire (1985); Brummitt (1973); Mill (1979); *Flora zambesiaca* 6(1): 78 (1992).

Malawi. Nyika Plateau, ca 10 km from Chelinda Camp, 2,200 m, Brummitt 11955 (K, LISC, MAL, PRE, SRGH, UPS); forest 4 km W. of Nganda, 1972, Brummitt & Sygne 79 (K, NDO, MAL); between Viewpoint and Chisanga Falls, 10° 32' 31"S, 33° 41' 07"E, 2000, Koekemoer 1717 (PRE).

Zambia. Nyika Plateau, 1962, Lawton 923 (K, NDO).

Vernonia tolypophora Mattf.

Vernonia hymenolepis sensu Earle Sm.; *Vernonia lasiopis* sensu Earle Sm.; *Vernonia hymenolepis* subsp. *tolypophora* (Mattf.) Wild.

An erect, sparsely branched subshrub, 1.2–3 m high; petiole 3–20 mm long, leaves soft, to 120 × 70 mm, ovate to lanceolate, margins serrulate to serrate with callose-tipped teeth, upper surface dark green, lower surface pale greyish green; capitula in numerous congested globose clusters to 50 mm across; involucre 8–15 × 10–20 mm; florets 20–40 per capitulum; corollas mauve or white, 9–15 mm long; along river and stream banks, in dambos, and forest margins, at medium to high altitudes, often in masses. Malawi, Tanzania, Zambia, and Mozambique.

Source. *Flora zambesiaca* 6(1): 127 (1992).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Vernonia turbinella S.Moore

A robust, greyish, tough perennial herb up to 1.2 m high, from a large woody rootstock, stems annual, one to many, tufted; leaves closely spaced, ascending, up to 125 × 90 mm in lower leaves; capitula numerous in terminal panicle up to 220 mm across; corollas cream to mauve, 6–9 mm long; in miombo woodland, wooded grasslands and submontane grassland, often on escarpments or rocky outcrops with tall grasses at medium altitudes. Zambia, Malawi, D.R.C., and Angola.

Source. Patel (1999); *Flora zambesiaca* 6(1): 123 (1992).

Malawi. Nyika National Park, Juniper Forest, 10° 45' 06" S, 33° 53' 15" E, 2000, Koekemoer 1892 (PRE); N. of Mwanda Mountain, 2000, Willis & Luhanga 180 (PRE).

Zambia. Nyika Plateau, Kangampande Mt. (Chow Forest), 2,130 m, 1952, White 2799 (FHO, K).

Vernonia ugandensis S.Moore

Vernonia barbosae Wild

Robust perennial herb to 0.8 m high, from a thickened vertical Woodstock; stems erect; basal leaves usually subsulate, to 160 × 40 mm, oblanceolate; capitula 3 to numerous, cymosely arranged; involucre to 12 mm long; corolla purple to whitish, ca 9 mm long; in dambos, grassland, miombo and mixed woodland. Zambia, Malawi, Mozambique, Uganda, Burundi, Tanzania, D.R.C., and Angola.

Source. *Flora zambesiaca* 6(1): 111 (1992).

Malawi. Nyika National Park, Mbuzinandi, 2000, Salubeni & Mwanyambo 6814 (MAL).

Excluded species

Aster bakeranus Burt Davy ex C.A.Sm.

A South African species; this record is perhaps *A. tansaniensis* Lippert.

Source. Mill (1979).

Calostephane angolensis (O.Hoffm.) Anderb.

Name to be verified.

Source. Patel & Overton (2002).

Crepis oliverana (Kuntze) C.Jeffrey

Known only from Kenya, Tanzania, and Cameroon.

Source. Mill (1979).

Dicoma amoena

An unauthored name not found in *Flora zambesiaca* or *Index Kewensis*.

Source. Patel (1999); Patel & Overton (2002).

Helichrysum angustifrondeum S.Moore

This taxon is only recorded from Zimbabwe and Angola. Presumably a misidentification.

Source. Patel (1999).

Helichrysum chrysargyrum Moeser

This species is confined to South Africa. It is assumed that these two collections are misidentifications.

Malawi. Nyika National Park, Dembo R., tributary E. of Dembo Bridge, 2000, Willis 32 (PRE); tributary of Wowwe R., 2000, Willis 158 (PRE).

Helichrysum cooperi Harv.

'There is one sheet bearing the name *H. cooperi* (Nyika, Chelinda River bridge, 1969, *Pavak* 2155) at Kew, but the covering folder has *cooperi* crossed out and an emphatic 'NO!' scrawled above—without indication of who did this. I think the specimen is probably *H. kirkii*.' (H. Beentje, pers. comm.) *H. cooperi* is apparently endemic to South Africa (Hilliard 1983).
Source. Mill (1979).

***Helichrysum geminatum* Klatt**

Name not recorded in any recent treatments of *Helichrysum*.

Source. Mill (1979).

***Helichrysum milne-redheadii* Brenan**

Name to be verified.

Source. Pat. (1999).

***Helichrysum squamosum* Less.**

Source. Mill (1979); Pat. (1999); Pat. & Overton (2002).

Helichrysum trachyphyllum

An unauthored name to be verified.

Source. Pat. & Overton (2002).

***Mikania chevalieri* (C.D.Adams) Holmes & McDaniel**

Mikania cordata (Burm.f.) Robinson var. *chevalieri* C.D.Adams; *Mikania laxa* A.Chev.

Type specimens are from Nigeria and the Ivory Coast; its distribution probably does not extend to Nyika.

Source. Mill (1979); Holmes, W.C. & McDaniel, S. (1975) Notes on *Mikania* (Compositae). *Phytologia* 31: 273–278.

***Senecio diphyllus* De Wild. & Muschl.**

Name not listed in Jeffrey, C. (1968) The Senecioneae in E. Tropical Africa. *Kew Bulletin* 41: 873–943 or F.T.E.A. Compositae (3) (unpublished ms.).

Source. Mill (1979); Pat. (1999); Pat. & Overton (2002).

***Senecio proprior* S.Moore**

Name not in F.T.E.A. Compositae (3).

Source. Mill (1979); Pat. (1999); Pat. & Overton (2002).

***Senecio striatifolius* DC.**

According to Hilliard (1977: 456) this species is confined to South Africa and Zimbabwe. Since we have no confirmed specimen from Malawi, it is excluded here.

Malawi. Nyika National Park, without locality or collecting details (Pat. 1999).

***Senecio tamoides* DC.**

According to Hilliard (1977: 493) this species is confined to Zimbabwe and South Africa. Perhaps a mistaken identification for the similar climbing *S. syringifolius*.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Senecio variabilis* Sch.Bip.**

This species is confined to the coastal belt of KwaZulu-Natal and the Eastern Cape (Hilliard 1977). Since *S. variabilis* appears to be closely related to *S. erubescens*, these records probably belong there.

Source. Hilliard (1977: 425).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Kasewerera, 2001, without collecting locality (Pat. & Overton 2002).

***Senecio zygodes* Hiern**

This name is not listed in Lebrun & Stork (1997).

Source. Pat. (1999).

Sonchus emini

An unauthored name not listed in Lebrun & Stork (1997).

Source. Pat. & Overton (2002).

Vernonia abbreviata

An unauthored name not found in either *Flora zambesiaca* or Lebrun & Stork (1997).

Source. Pat. (1999).

***Vernonia bracteosa* O.Hoffm.**

Unlikely to occur on the Nyika; not recorded for Malawi or Zambia in *Flora zambesiaca*.

Source. Pat. (1999); Mill (1979).

***Vernonia cinerea* (L.) Less.**

A low-altitude species (0–800 m) not recorded for Nyika in *Flora zambesiaca*. Widespread in tropical Asia, India, Australia, tropical W. Africa, D.R.C., Rwanda, Angola, and South Africa.

Source. Pat. (1999); *Flora zambesiaca* 6(1): 143 (1992);

Vernonia javanica

An unauthored name not recorded in *Flora zambesiaca* 6,1 (1972).

Source. Pat. & Overton (2002).

***Vernonia lampropappa* O.Hoffm.**

V. lampropappa is confined to Angola, but is closely related to *V. turbinella* S.Moore (*Flora zambesiaca* 6(1): 123 (1992)).

Source. Mill (1979).

Vernonia pawekiae

This unauthored name is not recorded in *Flora zambesiaca* or in Lebrun & Stork (1997).

Source. Pat. (1999).

***Vernonia poskeana* Vatke & Hildebrandt**

A low-altitude species not recorded for Nyika or northern Malawi and very unlikely to occur there.

Source. Pat. (1999).

***Vernonia* cf. *ringoetii* De Wild**

On swamp forest (*mushitu*) margins and streamsides, usually in swampy ground. Zambia, Burundi, Tanzania, and D.R.C. Within the *Flora zambesiaca* area this species is confined to the extreme northwest of Zambia. It is almost certain that the specimens quoted below represent misidentifications, probably for the closely related *V. tolypophora*.

Source. *Flora zambesiaca* 6(1): 126 (1992).

Zambia. Nyika National Park, Mpopoti, Nyika, 2000, *Mwanyambo* 557 (MAL); without locality or collecting details (Pat. 1999).

BALSAMINACEAE

***Impatiens assurgens* Baker**

Erect perennial herb 10–60 mm tall; leaves opposite, decussate; flowers small, white, upper petal hooded; widespread in grassland, open moist woodland, marshes, and dambos. N.W. Mozambique to Angola and D.R.C.

Source. *Flora zambesiaca* 2(1): 168 (1963).

Malawi. Nyika National Park, Lake Kaulime, 1958, *Robson* 621 (BM, K, LISC, SRGH); Chisanga Falls, 2000, *Kasakula* 203 (LMA, MAL, SRGH).

***Impatiens eryaleia* Launert**

Flowers pale mauve to deep rose, open; in moist, shaded places in upland rainforest. This species is not recorded from the Nyika in *Flora zambesiaca*, but is indicated for the Nyika area in Grey-Wilson (1980) and probably occurs there. The specimen quoted here requires confirmation since the locality is outside the species' habitat.

Source. Grey-Wilson (1980).

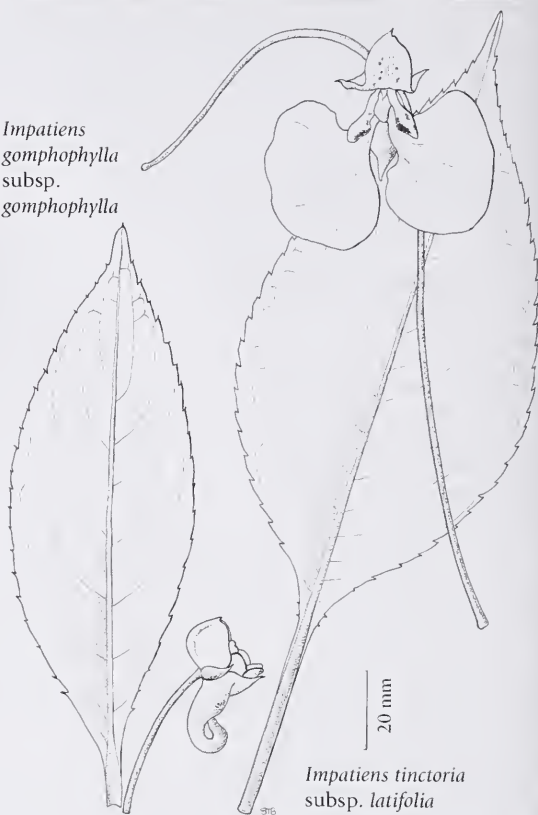
Malawi. Nyika National Park, Thazima Camp, 2000, *Chapama* 177 (?MAL).



Begonia sutherlandii subsp.
sutherlandii

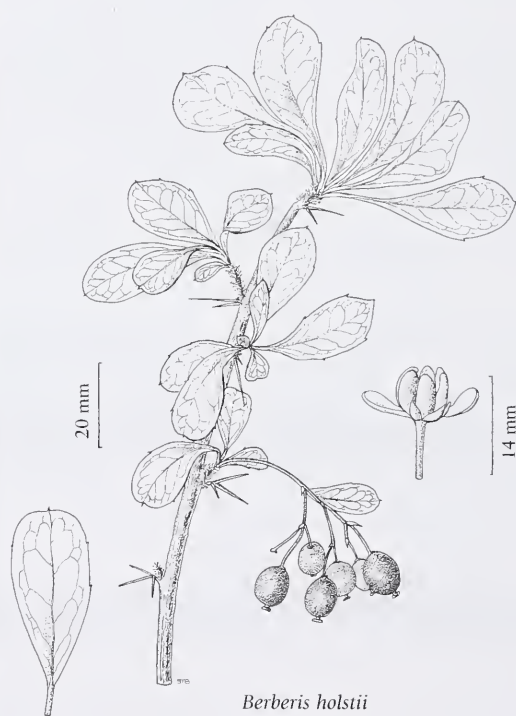
Del. Sandie Burrows

Impatiens
gomphophylla
subsp.
gomphophylla

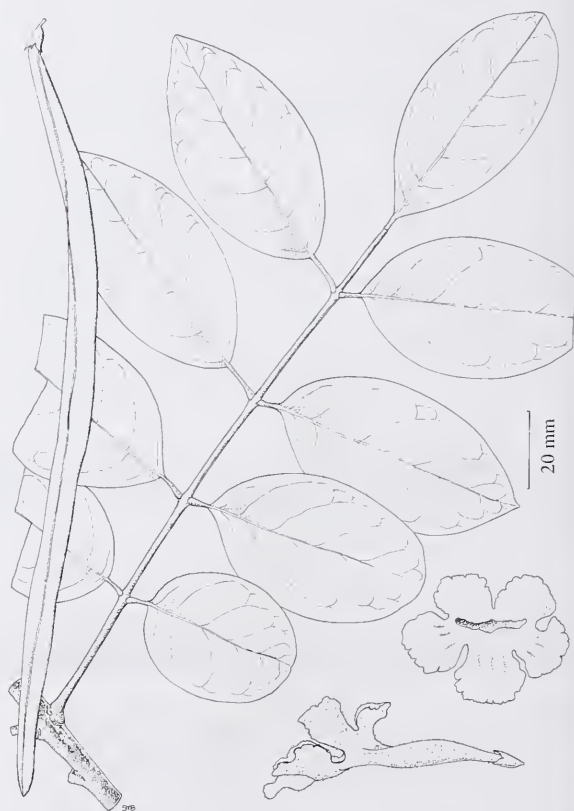


Impatiens tinctoria
subsp. *latifolia*

Del. Sandie Burrows



Berberis holstii
Del. Sandie Burrows



Stereospermum kunthianum
Del. Sandie Burrows

***Impatiens gomphophylla* Baker f. subsp. *gomphophylla* ❖●**

Erect herb 1.0–1.5 m tall; flowers red or orange, in clusters in leaf axils along the stem; in scrub along roads, in drainage lines, on forest margins; Malawi, Zambia, S.E. D.R.C., and S. Tanzania. More frequent on the western Nyika.

Source. Grey-Wilson (1979).

Malawi. Nyika National Park, Thazima Road, 2000, *Phiri* 3608 (UZL); Chelinda Bridge, 2000, *Willis* 37 (MAL, PRE).

Zambia. Nyika National Park, Rest House area, 2000, *Phiri* 3580 (UZL).

***Impatiens hydrogetonoides* Launert**

Soft erect to prostrate herb, stems to 0.5 m tall; leaves greyish green, sparsely hairy below; flowers 1–3 in leaf axils, pink; growing in spray of waterfalls and moist shaded areas in upland rainforest. Known only from Zambia, S. Tanzania, and the Mafinga Mountains in Malawi. Not recorded for the Nyika by Grey-Wilson (1980) or in *Flora zambesiaca* 2,1(1963), and not supported by any recent specimens.

Source. Dowsett-Lemaire (1985: 319, 362).

Malawi. Nyika Plateau, N. Rukuru (Chisanga) Falls, Dowsett-Lemaire, without quoted specimen.

Zambia. Nyika Plateau, Manyenjere Forest, Dowsett-Lemaire, without quoted specimen.

***Impatiens polyantha* Gilg ●**

Impatiens brachycentra Schulze & Launert

Erect to straggly herb; flowers white, hooded, similar to *I. assurgens*, but the leaves larger and alternate; in grassland and near streams, often on roadside banks on the western Nyika. Known only from the Nyika and S. Tanzania.

Source. *Flora zambesiaca* 2(1): 170 (1963).

Malawi. Nyika National Park, Nganda Hill summit, 2000, *Burrows & Burrows* 6846 (MAL, PRE, UZL); Nthakati Peak, 2000, *Willis, Patel & Luhanga* 128 (PRE).

Zambia. Nyika Plateau, without precise locality, 1959, *Richards* 10423 (K, SRGH).

***Impatiens rubromaculata* Warb. subsp. *schulziana* (Launert) Grey-Wilson**

Impatiens schulziana Launert

Branched shrubby perennial herb; flowers mauve, flat; growing next to waterfalls or on forest margins, apparently locally common; 2,200–2,600 m. This subspecies is endemic to the Nyika Plateau.

Source. Dowsett-Lemaire (1985: 359); Grey-Wilson (1980: 128).

Malawi. Nyika Plateau, Nchena Waterfall, 1952, *Chapman* 54 (BM). [Type: *Brass* 17204 (K, holo., B, BM, SRGH, iso.).]

***Impatiens tinctoria* A.Rich. subsp. *latifolia* Grey-Wilson ❖●**

Impatiens prainiana sensu Launert (1963), non Gilg

Erect perennial herb to 2 m tall; flowers large, white, parts finely dotted purple; in damp, shaded places in wet forest, along streams, and on forest margins. The subspecies is known only from N. Malawi and S. Tanzania.

Source. *Flora zambesiaca* 2(1): 166 (1963).

Malawi. Nyika Plateau, without precise locality, 1959, *Richards* 10395 (K, SRGH); road from Thazima to Zambian Rest House, 2000, *Burrows & Burrows* 6833 (MAL, PRE).

Zambia. Nyika, without precise locality, 1962, *Fanshawe* 7386 (K); Rest House area, 2000, *Phiri* 3762 (UZL).

***Impatiens zombensis* Baker**

Shrubby branched soft herb; flowers small, pink to magenta; along streams, on forest margins or in secondary scrub. According to Grey-Wilson (1980), *I. zombensis* is confined to S. Malawi and he does not record it from the Nyika.

Source. *Flora zambesiaca* 2(1): 178 (1963); Mill (1979).

Malawi. Nyika National Park, without precise locality, 7,000–8,000', 1932, *Sanderson* 17 (BM).

***Impatiens* species A ●**

Erect herb to 300 mm tall, growing in marshy areas near river; leaves thick, semi-fleshy; flowers deep pink with yellow markings on throat. This species has been determined as *I. assurgens* (PRE), but it is quite clearly different from that species which has white flowers, is smaller in stature, and has leaves of a thinner texture.

Malawi. Nyika National Park, below Chelinda Bridge, 2000, *Burrows & Burrows* 6839 (K, MAL, PRE, SRGH, UZL).

Excluded species***Impatiens hochstetteri* Warb. subsp. *hochstetteri***

This species is not recorded from Nyika in *Flora zambesiaca*, but is indi-

cated for the Malawian Nyika area in Grey-Wilson (1980). We have seen no specimens from the Nyika.

BEGONIACEAE***Begonia princeae* Gilg**

Perennial herb 50–300 mm high, tuberous; leaves simple, fleshy, base markedly asymmetrical; flowers pale to bright pink; on termitaria in bush and woodland; 910–2,150 m. N. Mozambique, Malawi, Zambia, D.R.C., Angola, and Tanzania.

Source. *Flora zambesiaca* 4: 501 (1978).

Malawi. Nyika, Lohanga Valley, 1956, *Chapman* 386 (BM).

Zambia. Lundazi District, 120 km N. of Rumphi (presumed to be on the

Zambian Nyika), 1970, *Pawek* 4158 (K).

***Begonia sutherlandii* Hook.f. ?subsp. *sutherlandii* ❖**

Tuberous perennial herb; leaves soft, base asymmetrical, margin toothed; flowers orange; on shady rock faces or (on Nyika) epiphytic on forest trees. South Africa to Tanzania and D.R.C. Subspecies unconfirmed.

Malawi. Nyika Plateau, eastern escarpment forests, without details (Dowsett-Lemaire 1985: 356); Chisanga Falls, 2000, *Mwanyambo* 503 (MAL).

BERBERIDACEAE***Berberis holstii* Engl. ❖**

Shrub to 3 m tall, branches armed with 3-pointed spines; leaves simple; flowers in clusters, yellow; fruit a berry, purplish; in montane scrub and forest margins; 2,250–2,450 m. Malawi (Nyika) to Ethiopia. Known only

from the Nyika Plateau within the *Flora zambesiaca* region. The local people use the yellow roots medicinally.

Malawi. Nyika National Park, Lake Kaulime, 2000, *Phiri* 3718 (UZL); Dembo Bridge, 2000, *Thera* 3021 (MAL).

BIGNONIACEAE***Stereospermum kunthianum* Cham. ❖**

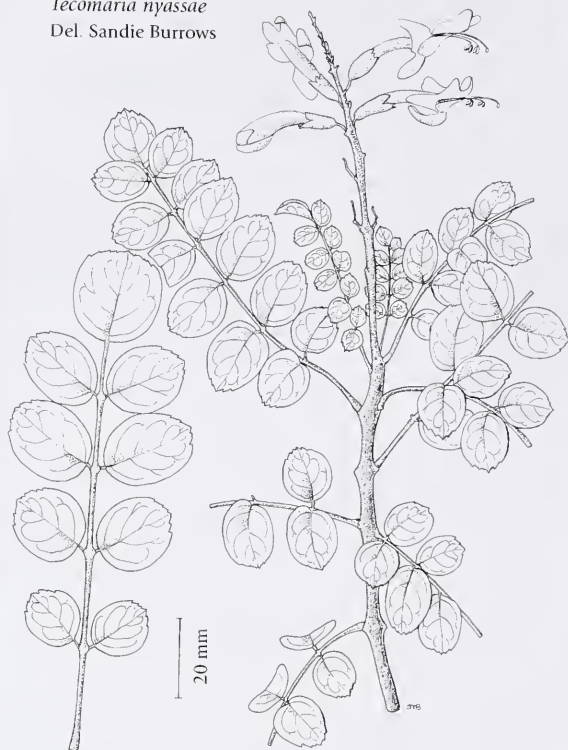
pink jacaranda

Small to medium tree to 15 m; leaves pinnate; flowers pink, trumpet-shaped, showy; in various types of woodland, 60–1,500 m. Zimbabwe to Senegal

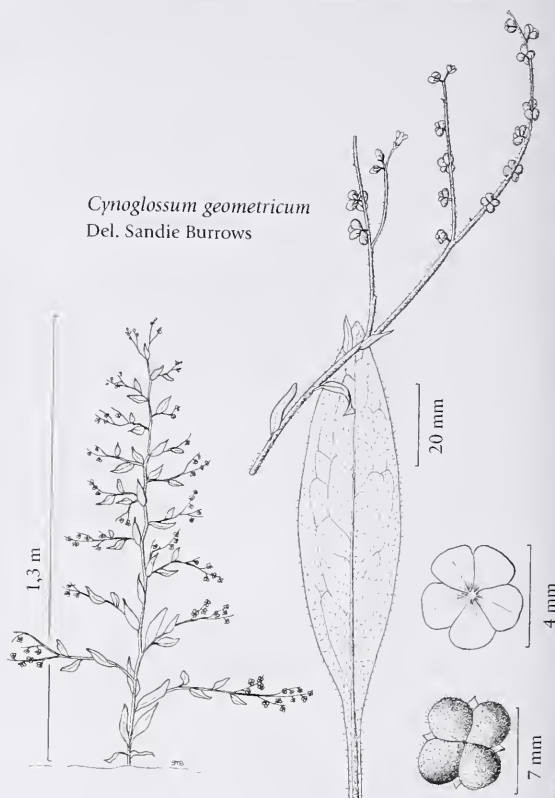
and Ethiopia. Presumably confined to the lower fringes of the Park.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Tecomaria nyassae
Del. Sandie Burrows



Cynoglossum geometricum
Del. Sandie Burrows



Heliotropium zeylanicum
Del. Sandie Burrows



Lithospermum afromontanum
Del. Sandie Burrows



Tecomaria nyassae (Oliv.) Baill. ex K.Schum. ❖

Tecoma shirensis Baker; *Tecoma nyikensis* Baker [Nyika, Whyte 112 (K, holo)]; *Tecomaria capensis* (Thunb.) Spach subsp. *nyassae* (Oliv.)

Brummitt

Shrub to 6 m; leaves pinnate; flowers tubular orange-red, showy; on forest margins, fringing *Widdringtonia* forest, *Brachystegia-Isobertina* woodland, and on slopes of rocky hills; 900–2,300 m. Malawi to D.R.C. and Tanzania. We have not upheld the unification of *T. nyassae* with the South African *T. capensis*; in our opinion the latter is morphologically too dissimilar

to accept the two as linked taxa.

Source. *Flora zambesiaca* 8(3): 66 (1988).

Malawi. Nyika Plateau, Nchenachena Spur, 2,100 m, 1946, *Brass* 17343 (BM, FHO, K, SRGH); Mbuzinandi, 2000, *Mwanyambo* 586 (MAL); Chisanga Falls, 2000, *Winter* 4009 (MAL).

Zambia. Nyika Plateau, near summit of Kangampande Mountain (Chowo Forest area), 2,100 m, 1952, *White* 2578 (K, FHO); western part of Park, 2000, *Phiri* 3973 (UZL).

BORAGINACEAE

Cynoglossum affolium Hochst. ex A.DC.

Perennial much-branched herb 0.8–2 m tall; leaves ovate to elliptic, sticky; flowers small, blue; fruit round, with numerous small hooks; on stream edges, at moist evergreen montane forest margins, in ravine forests, and in montane grasslands; 1,980–2,440 m. From Ethiopia southwards, through the mountains of E. Africa to Zimbabwe.

Source. *Flora zambesiaca* 7(4): 103 (1990).

Malawi. Nyika Plateau, Lake Kaulime, 1970, *Brummitt* 10797 (K).

Cynoglossum coeruleum Hochst. ex A.DC.

Cynoglossum afrocaeruleum (Mill) Riedl

Erect much-branched herb to 1.2 m tall; leaves linear to lanceolate, sticky-hairy; flowers blue; fruit covered in small hooks; in submontane grassland. Malawi, Tanzania, Kenya, and Ethiopia.

Source. *Flora zambesiaca* 7(4): 104 (1990).

Malawi. Nyika Plateau, towards Kasaramba, 2,370 m, 1970, *Pawek* 3387 (K).

Cynoglossum geometricum Baker & Wright ❖

Cynoglossum lanceolatum subsp. *geometricum* (Baker & Wright) Brand

Annual or perennial herb 0.6–1.6 m tall, leaves lanceolate to oblanceolate, finely hairy; flowers small, deep blue; fruit small, with numerous hooks; in mixed woodland, pine plantations, grasslands, and forest margins; 1,450–2,300 m. From Ethiopia and D.R.C. to South Africa (KwaZulu-Natal).

Source. *Flora zambesiaca* 7(4): 107 (1990).

Malawi. Nyika Plateau, Kafwimba Forest, 1969, *Pawek* 2231 (K); Dembo Bridge, 2000, *Kasakula* 222 (LMA, MAL, SRGH).

Cynoglossum lanceolatum Forssk.

Biennial or perennial herb 0.3–1.2 m tall; leaves narrowly lanceolate, base decurrent on petiole, sticky-hairy; flowers white or blue, small; fruit small, covered in small hooks; in montane grasslands, river-banks, often weedy

on roadsides and cultivated ground; 1,000–2,250 m. Throughout most of Africa; also in southern Asia.

Malawi. Nyika National Park, Chosi Viewpoint, 2000, *Mwanyambo* 485 (MAL); near Chosi Viewpoint, 2000, *Koekemoer* 1695 (PRE).

Heliotropium zeylanicum (Burm.f.) Lam. ❖

Erect or procumbent perennial herb to 0.6 m tall; leaves simple, linear-lanceolate, hairless, but slightly sticky; flowers small, yellow or greenish; in woodland, savanna, sandy areas, along rivers; up to 2,000 m. Widespread in tropical Africa, through Arabia to India.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Lithospermum afromontanum Weimarck ❖

Erect, straggly undershrub to 1.8 m tall; leaves simple, narrowly elliptic, shortly hairy; flowers yellowish, small; fruit of 1–3 nutlets, smooth; in grasslands, low scrub, and montane forests, often on rocky soils and in ravines; 1,370–2,300 m. Also occurring in Sudan, Ethiopia, D.R.C., Uganda, Kenya, Tanzania, and South Africa (KwaZulu-Natal).

Source. *Flora zambesiaca* 7(4): 108 (1990).

Malawi. Nyika Plateau, Chelinda Hill, 1976, *Phillips* 868 (SRGH).

Zambia. Nyika, 1962, *Fanshawe* 7290 (K, SRGH).

Trichodesma physaloides (Fenzl) A.DC. ❖

Perennial herb with one to several erect stems to 0.5 m tall; flowers showy, in pendulous clusters, sepals purplish, petals white; in grassland or woodland subject to annual burning (flowers only after burning); 900–1,900 m. From Sudan and Ethiopia to South Africa (northern KwaZulu-Natal).

Source. *Flora zambesiaca* 7(4): 96 (1990).

Malawi. Nyika Plateau, valley N. of Nganda, 1972, *Synge* WC382 (K, MAL, SRGH).

BUDDLEJACEAE

Buddleja dysophylla (Benth.) Radlk. ❖

Straggly shrub or scandent to 10 m; leaves opposite, petiolate, narrowly triangular to ovate, 10–100 × 7–75 mm, base truncate or cordate, decurrent into the petiole, margins irregularly toothed, finely hairy; flowers in dense terminal clusters, white to cream; in scrub and forest margins; 2,000–2,600 m. South Africa to Tanzania.

Source. Brummitt (1973).

Malawi. Nyika National Park, E. foot of Nganda, 1972, *Brummitt*, *Munthali* & *Synge* 248 (K, MAL); Zovochipolo Forest, *Dowsett-Lemaire* 134 (White *et al.* 2001); Juniper Forest Reserve, 2,000 m, 1982, *Chapman* 6313 (FHO).

Buddleja pulchella N.E.Br. ❖

Climbing shrub to 20 m high; leaves more or less opposite, petiolate, triangular to ovate or ovate-elliptic, 18–100 × 10–50 mm, base tapering, decurrent into the petiole, margins entire or with a few lobes in the lower half, finely grey-hairy; flowers in small terminal clusters, yellowish to salmon; in or on edges of forest, or in woodland. South Africa to Kenya. Rare on Nyika.

Source. *Flora zambesiaca* 7(1): 339 (1983).

Malawi. Nyika National Park, Zovochipolo Forests, without collecting details (Dowsett-Lemaire 1985: 319).

Zambia. Nyika Plateau, without locality, *Fanshawe* 7296 (FHO).

Buddleja salviifolia (L.) Lam. ❖

Shrub or small evergreen tree, branchlets white-hairy; leaves opposite, narrowly ovate to narrowly elliptic-oblong, 40–170 × 8–45 mm, base cordate or auriculate, apex narrowly tapering, margin crenate; flowers white to lilac, in terminal clusters, sweetly scented; on forest margins, riverine scrub, rocky hillsides, and montane grassland; 1,200–2,500 m. South Africa to Angola and Kenya. This is an important and common pioneer species on the Nyika.

Source. *Flora zambesiaca* 7(1): 343 (1983).

Malawi. Nyika National Park, lower W. slopes of Nganda, 2,350 m, 1972, *Synge* 163 (K, MAL, SRGH, FHO, EA, UPS, BR); without locality, 2,440 m, 1946, *Brass* 17166 (A, BM, BR, EA, FHO, K, MO, NY, PRE, SRGH, US).

Zambia. Nyika Plateau, 1960, *Coxe* 32 (SRGH, UZL); without locality, 1966, *Fanshawe* 9757 (FHO).

Nuxia congesta R.Br. ex Fresen. ❖

Chichewa: chingongwa, chingwangwa; *Yao:* nakawaka

Evergreen small tree 2–25 m tall, stem fluted in older trees, bark flaking in strips; leaves in whorls of 3, variable, narrowly elliptic to obovate or roundish, entire to toothed; flowers small, in tight branched clusters, white; fruit a small capsule; in montane forest, bush clumps on rocky outcrops, and rocky hillsides; 1,100–3,000 m. Widespread from South Africa to Ethio-



Trichodesma physaloides
Del. Sandie Burrows

20 mm



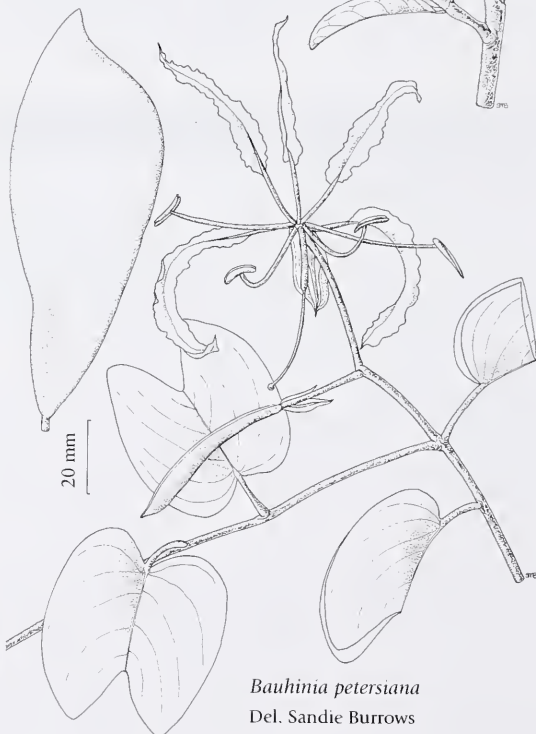
Nuxia congesta
Del. Sandie Burrows



20 mm

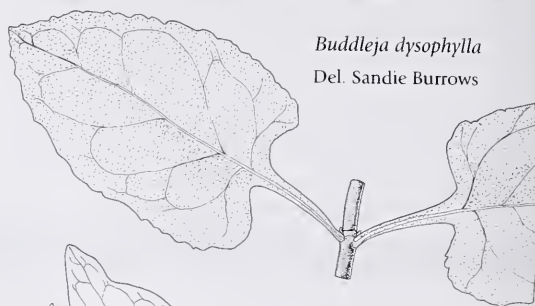


4 mm



20 mm

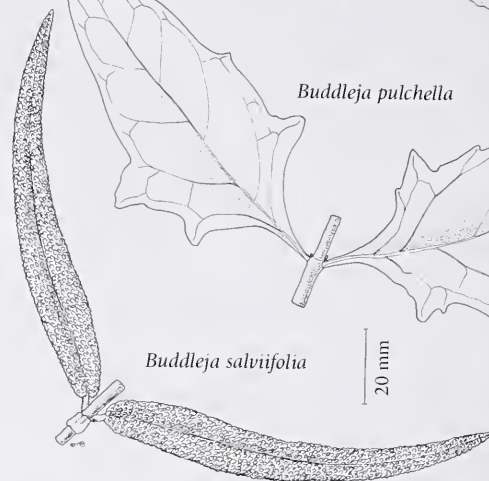
Bauhinia petersiana
Del. Sandie Burrows



Buddleja dysophylla
Del. Sandie Burrows



Buddleja pulchella

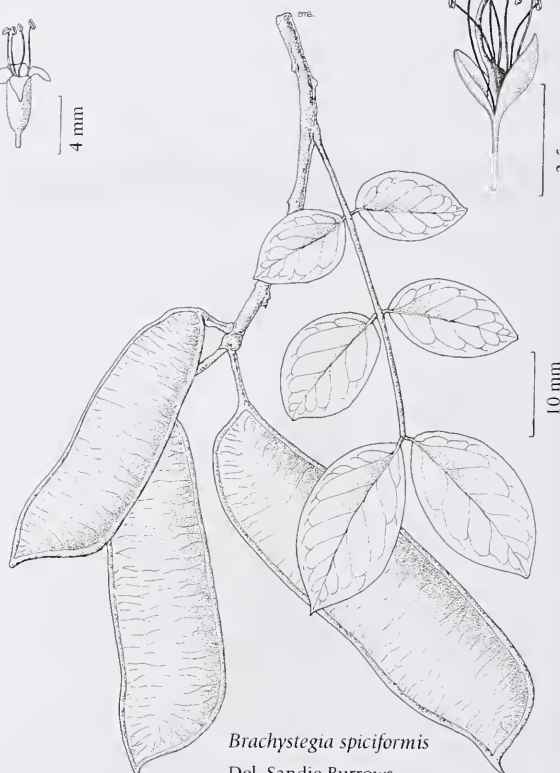


Buddleja salviifolia

20 mm



2,5 mm



10 mm

Brachystegia spiciformis
Del. Sandie Burrows

pia and W. Africa.

Source. *Flora zambesiaca* 7(1): 349 (1983).

Malawi. Nyika National Park, forest 3 km E. of Nganda, 1972, *Brummitt & Syngé* 92 (MAL); Sangule Hill, 1959, *Adlard* 303 (FHO, K, PRE, SRGH).

Zambia. Nyika Plateau, 1958, *Robson* 369 (SRGH).

Nuxia floribunda Benth.

Small to large evergreen tree to 20 m; leaves mostly in whorls of 3, also opposite or rarely alternate, elliptic, hairless or almost so, base and apex

tapering, margin entire; flowers small, creamy, fragrant, in large branched clusters; in montane forest, often near rivers, and in heath vegetation; 800–2,400 m. South Africa and throughout eastern Africa.

Source. *Brummitt* (1973); *Flora zambesiaca* 7(1): 350 (1983).

Malawi. Nyika National Park, 6 km E.S.E. of Nganda, 1972, *Brummitt, Munthali & Syngé* 124 (K, MAL, SRGH, FHO); head of Mondwe Valley, 2,285 m, 1972, *Brummitt & Syngé* 245 (FHO, K).

Zambia. Nyika Plateau, without locality, *White* 2737 (FHO, K).

CAESALPINIACEAE

Bauhinia petersiana Bolle ✱

white bauhinia; *Chichewa*: mpando; *Yao*: muawua, mpandula

Shrub to 4 m tall, sometimes semi-scandent; leaves blue-green, 2-lobed; flowers white; fruit a woody dehiscent pod; common in escarpment miombo woodland, especially at lower altitudes. Zimbabwe to Tanzania and D.R.C.

Source. *Brummitt* (1973: 62).

Malawi. Nyika Plateau, Chipome Valley, 1972, *Syngé* 276 (FHO, K, MAL).

Brachystegia allenii Burt Davy & Hutch.

Tree 3–15 m tall (usually < 10 m); leaves blue-green, leaflets usually twisted at 90° from the rachis plane; pods held at right angles to the stalk, above the crown; rocky escarpments, 500–1,125 m. Zimbabwe Malawi, Zambia, D.R.C., and Tanzania.

Malawi. Nyika Plateau, without locality (?northern end), collector unknown (Patel 1999).

Brachystegia boehmii Taub.

Chichewa: mombo; *Yao*: njombo; *Tumbuka*: chiombo

Tree 5–15 m tall, bark rough, grey; leaves pinnate, with 13–24 pairs pinnae, overlapping or touching, leaves somewhat pendulous; widespread and dominant in places, often on poor soils on hills and escarpments; 900–1,700 m. Zimbabwe to Angola and Tanzania. The timber is used for building poles and for charcoal.

Source. *Brummitt* (1973: 62).

Malawi. Nyika Plateau, Sawi Valley, 1972, *Syngé* 417 (K).

Brachystegia bussei Harms

Chichewa: mseza; *Yao*: mtwana

Slender, straight-boled tree with smooth, pale grey bark; leaflets in 2–3(4) widely-spaced pairs, subequal or distal pair largest; pods pendulous, more or less shiny; on rocky hillsides, often in pure stands, 900–1,375 m. Mozambique, Malawi, Zambia, D.R.C., and Tanzania. The trunk exudes a very sticky sap, which is used for birdlime. An infusion of the roots is used to treat stomach complaints.

Source. *Brummitt* (1973: 62).

Malawi. Nyika Plateau, S. slopes of Kawozya, 1972, *Brummitt & Syngé* 181 (K, MAL).

Brachystegia floribunda Benth.

Chichewa: tsamba; *Yao*: msumbuti; *Tumbuka*: faija

Tree 6–20 m, crown thin, bark smooth at first, roughening with age; leaflets 2–4 pairs, widely-spaced, distal pair the largest; pods very pendulous, smooth blackish purple; widespread above 1,200 m; a major component of some miombo woodland. Mozambique, Malawi, Zambia, Angola, D.R.C., and Tanzania.

Source. *Brummitt* (1973: 62).

Malawi. Nyika Plateau, lower Mondwe River, 1972, *Syngé* 279 (EA, FHO, K, MAL, SRGH).

Brachystegia longifolia Benth. ●

Brachystegia x longifolia Benth.

Chichewa: babvu mombo; *Yao*: mtambo, njombo; *Tumbuka*: chitowe

Large straight-boled, flat-topped tree 6–30 m tall, bark rough, iron-grey; leaves mid-green, leaflets in 5–16 spaced or touching pairs, the middle pairs the largest; pods horizontal or pendulous, reddish brown, more or less shiny; widespread dominant of miombo woodlands in Zambia and N. Malawi, also in Tanzania, Mozambique, Angola, and D.R.C. A bark cloth,

known as *nyando* or *chiwondo*, was, until recently, made from the bark of this tree.

Source. *Brummitt* (1973: 62).

Malawi. Nyika Plateau, S. slopes of Kawozya, 1972, *Brummitt & Syngé* 195 (FHO, K, MAL).

Brachystegia manga De Wild.

blue-leaved brachystegia; *Chichewa*: msumbu

Medium tree 4–15 m tall with dense rounded crown; leaves grey- or mid-green, leaflets in 3–4 pairs, touching to widely spaced, widest in the middle; pods very pendulous, pinkish brown with a bloom; on rocky hillsides and escarpments, favours sandy soils, rather local, 1,100–1,600 m. E. Zambia, N. Zimbabwe, Mozambique, Malawi, D.R.C., and Tanzania.

Source. *Brummitt* (1973: 62).

Malawi. Nyika Plateau, Sawi Valley, 1972, *Syngé* 420 (FHO, K, MAL, SRGH).

Brachystegia microphylla Harms

Brachystegia tamarindoides Welw. ex Benth. subsp. *microphylla* (Harms) A.C.Chikuni

Tree 6–20 m tall, crown spreading, bark smooth, mottled grey; leaves pinnate, with 20–25 pairs of leaflets; pods flat, woody, splitting in a twist; in miombo woodland on rocky hills in higher rainfall areas, often in mist belt woodland. Zimbabwe to D.R.C. and Tanzania.

Malawi. Nyika National Park, without locality, 2000, *Thera* 3099 (MAL).

Brachystegia spiciformis Benth. ✱

Chichewa: chumbe, mpapa; *Tumbuka*: musani

Tree 3–25 m tall, often stunted at high altitudes, crown rounded to more or less spreading, bark rough, dark grey; leaves pinnate, with 3–5 pairs of pinnae, the largest pair at the end; flowers in greenish racemes, sweetly scented; pods distributed throughout the canopy of the tree, flat, hard/woody, hairless, splitting in a twist to expel the seeds; a major component of miombo woodland, on a wide variety of soils and geology; near sea level to 2,050 m, widespread, from Mozambique and N. South Africa to Tanzania, D.R.C., and Angola. This species, together with *Julbernardia globiflora*, is the most important constituent of miombo woodland. The timber is widely used for firewood, charcoal, and building materials, the inner bark makes an excellent string, the whole bark is used to make beehives, and the roots have medicinal uses.

Source. *Brummitt* (1973: 62).

Malawi. Nyika Plateau, Chipome Valley, 1972, *Syngé* 221 (K); near Thazima Gate, 2000, *Kasakula* 258 (LMA, MAL, SRGH).

Brachystegia tamarindoides Welw. ex Benth.

Brachystegia glaucescens Hutch. & Burt Davy
mountain acacia; *Chichewa*: mombo; *Tumbuka*: mtwana

Large tree with open flat-topped crown and smoothish grey bark; leaves blue-green, leaflets 7–23 spaced or touching pairs, middle pairs the largest; pods purplish brown, smooth; characteristic of rocky, often granite, hills and escarpments. Zimbabwe to Malawi, Mozambique, and Zambia.

Source. *Brummitt* (1973: 62); Chikuni (1998: 207).

Malawi. Nyika Plateau, S. slopes of Kawozya, 1972, *Brummitt & Syngé* 182 (K, MAL); Chisanga Falls junction, 2000, *Salubeni & Mwanyambo* 6827 (MAL).

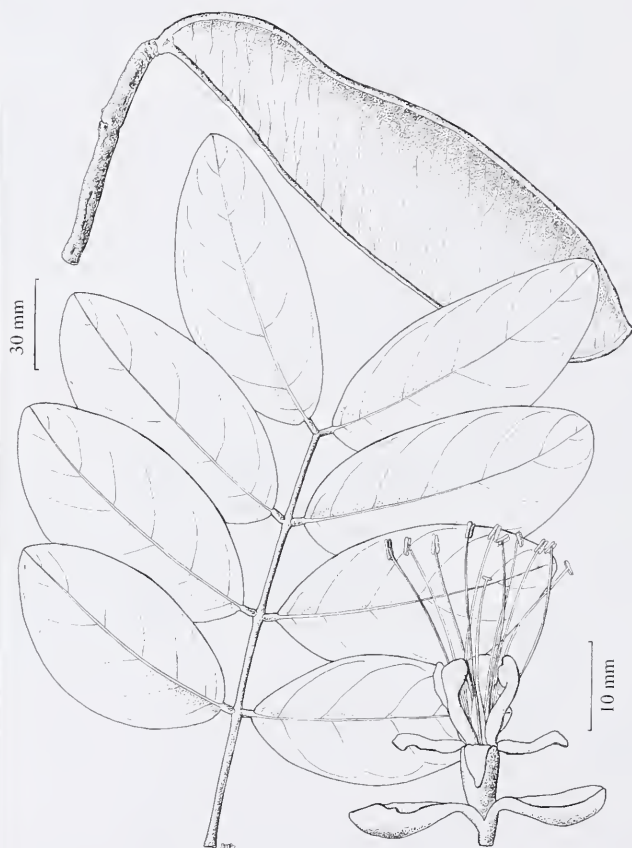
Brachystegia taxifolia Harms

Tumbuka: tuunda

Cassia mimosoides
Del. Sandie Burrows



Cryptosepalum maraviense
Del. Sandie Burrows



Isoberlinia angolensis var. *lasiocalyx*
Del. Sandie Burrows



Julbernardia globiflora
Del. Sandie Burrows

Bush to small tree 1.5–16 m tall, crown dense dark green, flat-topped; leaflets 22–45 pairs, closely-packed, widest about the middle; pods woody, pale brown; on poor sandy soils at high altitudes in higher rainfall areas, often forming dense stands; 1,200–1,800 m. Malawi, Zambia, D.R.C., and S. Tanzania.

Source. Brummitt (1973: 62).

Malawi. Nyika Plateau, ridge above Mondwe Valley, 1972, *Synge* 257 (FHO, K, MAL, SRGH); Nyika National Park, near Thazima Gate, 2000, *Kasakula* 257 (LMA, MAL, SRGH).

Zambia. Nyika National Park, Kaperekezi Road, 2000, *Phiri* 3842 (UZL).

***Brachystegia utilis* Burt Davy & Hutch.**

Chichewa: zale, mombo; *Yao:* nagwesu; *Timbuka:* mjenje

Slender tree 6–12 m tall, crown rounded, dense, bark smooth at first, dark and rough with age; leaves dark green, leaflets in 5–9 more or less touching pairs, subequal; pods smooth pinkish brown to plum-coloured; in miombo woodland on ridges and hills on gritty or stony slopes, mainly above 1,000 m. Zimbabwe to Tanzania, Mozambique to Angola.

Malawi. Nyika Plateau, without locality, collector unknown (Patel 1999).

Cassia kirkii* Oliv. var. *kirkii

nom. alt. *Chamaecrista kirkii* (Oliv.) Standley

Erect annual herb; leaves with 18–59 pairs of leaflets, hairy or not; pods hairy, 40–90 mm long; in grassland, marshy areas, and forest edges; 910–2,300 m. Zimbabwe to Kenya and Nigeria.

Malawi. Nyika National Park, Jalawe Viewpoint, 2000, *Thera* 3086 (MAL).

***Cassia mimosoides* L. ✧**

nom. alt. *Chamaecrista mimosoides* (L.) Lock

Chichewa: ngwangwalate

Very variable annual or perennial erect to prostrate herb to 1.5 m tall; leaflets in 16–76 pairs elliptic-oblong to linear-oblong, 2.5–8 mm long, more or less hairless; flowers yellow; pods linear, 35–80 mm long, hairy; on forest margins, in wooded grassland, disturbed areas; to 2,740 m. Throughout the Old World tropics. A very variable species.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979);

Nyika National Park, Vitinithiza, 2000, *Kasakula* 260 (LMA, MAL, SRGH).

Zambia. Western part of Nyika National Park, 2000, *Phiri* 3964 (UZL).

***Cassia parva* Steyaert**

nom. alt. *Chamaecrista parva* (Steyaert) Lock

Perennial herb 80–500 mm tall, stems erect, sparingly branched; leaflets in 7–32 pairs, narrowly oblong to lanceolate, 3–11 mm long; flowers yellow; pods 35–45 mm long, 3.5–4 mm wide; in grassland, deciduous woodland; 1,580–2,100 m. Zimbabwe to Kenya.

Source. Brummitt (1973: 62).

Malawi. Nyika Plateau, 8 km E. of Nganda, 1972, *Brummitt*, *Munthali* & *Synge* 135 (K, MAL); Thazima Gate, towards Chelinda, 2000, *Mwanyambo* 507 (MAL).

***Cassia quarrei* (Ghesq.) Steyaert**

nom. alt. *Chamaecrista stricta* E.Mey.

Annual herb with prostrate or ascending stems to 300 m tall; leaflets in 20–35 pairs, sessile; pods 30–60 mm long, 3.5–5.5 mm wide; in miombo woodland, often in disturbed ground and along roadsides; 880–2,040 m; South Africa to Kenya.

Malawi. Nyika National Park, Thazima Road, 2000, *Phiri* 3604 (UZL).

***Cassia singueana* Delile**

nom. alt. *Senna singuena* (Delile) Lock

winter cassia; *Chichewa:* mpatsachokolo; *Yao:* mtewelee, ntwerelewe Shrub or small tree 1–15 m high; leaf petiole without glands; leaflets in 6–10 pairs, elliptic to broadly elliptic, 25–63 mm long, hairy or not; flowers yellow; pods straight, cylindrical, 55–260 mm long, hairy or not; woodland and wooded grassland; 0–2,130 m. Widespread in tropical Africa. The pods are eaten raw or cooked.

Source. Brummitt (1973: 63).

Malawi. Nyika Plateau, Chipome Valley, 1972, *Synge* 262 (K, MAL, SRGH).

***Cassia wittei* Ghesq.**

nom. alt. *Chamaecrista wittei* (Ghesq.) Lock

Annual herb 0.3–1.5 m tall, with erect or spreading hairy branches; leaflets sessile, in 13–40 pairs, narrowly oblong, 6–12 mm long, hairless; flowers yellow; pods 50–75 mm long, 5–6 mm wide; in upland grassland and montane scrub or bush; 1,740–2,590 m. Zimbabwe to Cameroon and Ethiopia.

Malawi. Nyika Plateau, without locality or collecting details (Mill 1979).

***Cryptosepalum maraviense* Oliv. ✧**

Timbuka: balawala; *Yao:* itindi-jombo

Suffrutex producing annual erect stems to 400 mm tall; leaflets in 3–16 pairs, overlapping, bases asymmetrical; pods small 25–50 mm long, dark brown, thinly woody, at dehiscence the red seeds extended outside the pod on a rigid stalk; in miombo woodlands, widespread in the higher rainfall areas, 300–1,600 m. Mozambique to D.R.C. and Tanzania.

Source. Brummitt (1973: 63).

Malawi. Nyika Plateau, plain S. of Kawoza, 1972, *Brummitt* & *Synge* 194 (K, MAL).

***Isobерlinia angolensis* (Welw. ex Benth.) Hoyle & Brenan**

?var. *lasiocalyx* Hoyle & Brenan ✧●

Tree to ca 12 m tall, bark grey, scaly; leaflets in 3–4 pairs, large, 70–190 mm long, hairy or hairless (see varieties); pods large, woody, 190–350 mm long, set with short rusty hairs; widespread component of miombo woodlands in high-rainfall areas. Malawi, Zambia, Angola, D.R.C., and Tanzania.

Source. Brummitt (1973: 63).

Malawi. Nyika Plateau, Chipome Valley, 1972, *Synge* 219 (K); Thazima Gate, 2000, *Burrows* & *Burrows* 6811 (MAL, PRE).

***Isobерlinia tomentosa* (Harms) Craib & Stapf**

As for *I. angolensis*, but differs in having the upper flowering petal rounded or emarginate (not bilobed) and ultimate branches of the panicle long, 35–250 mm (not short, 25–80 mm). Zambia and Malawi to Sudan and W. Africa. Not recognised as distinct from *I. angolensis* by White (1962).

Source. Brummitt (1973: 63).

Malawi. Nyika Plateau, ridge above Mondwe Valley, 1972, *Synge* 255 (K).

***Julbernardia globiflora* (Benth.) Troupin ✧●**

Chichewa: mchanga, kamponi; *Timbuka:* kaphare

Deciduous small tree to 12 m tall, bark smooth, pale when young, grey and rough when older; leaflets in 4–6 pairs, the largest about the middle, margins fringed with whitish hairs; pods brown, minutely hairy, mostly situated on the top of the tree crown; a widespread and major component of miombo woodland. Zimbabwe to Tanzania, Mozambique to Botswana. Widely used for firewood and charcoal, the bark stripped for beehives and rope; a good honey tree.

Source. Brummitt (1973: 63).

Malawi. Nyika Plateau, S. slopes of Kawoza, 1972, *Brummitt* & *Synge* 183 (FHO, K, MAL).

***Julbernardia paniculata* (Benth.) Troupin**

Evergreen flat-topped tree to 20 m tall, bark grey, smoothish, flaking; leaflets in 3–4 pairs, sparsely hairy to more or less glabrous; pods dark brown velvety; widespread component of miombo woodland, often with *Brachystegia floribunda*; 1,150–1,550 m. Mozambique to Angola, Zambia to Tanzania.

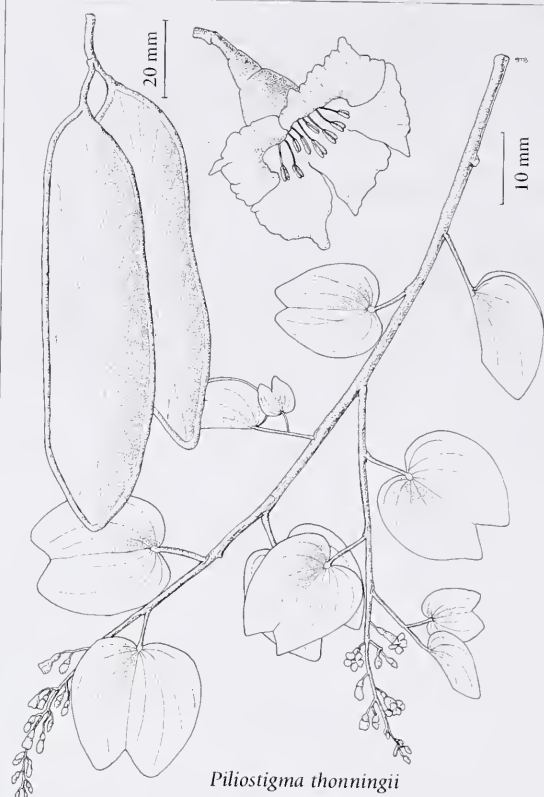
Malawi. Nyika National Park, Thazima Gate, 2000, *Phiri* 3627 (UZL); Zambian Rest House to Thazima, 2000, *Izidine* 44 (LMA).

***Piliostigma thonningii* (Schumach.) Milne-Redh. ✧**

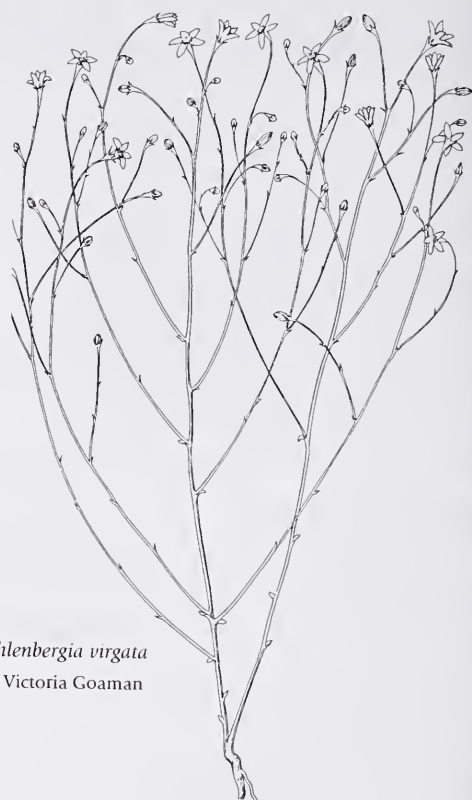
Bauhinia thonningii Schumach.

camel-foot; *Chichewa:* chitimbe, msekese

Tree 3–10 m tall, bark rough, very dark brown; leaves simple, more or less round, shallowly 2-lobed, 50–170 mm long, hairy beneath; flowers white to pinkish; pods large, 130–280 mm long, woody, dark brown, hairless; in woodland and wooded grassland, 0–1,830 m. Widespread in tropical Africa. The dry pulpy flesh is edible, but almost all parts of this tree have some traditional use. **Malawi.** Nyika Plateau, without locality or collecting details (Patel 1999).



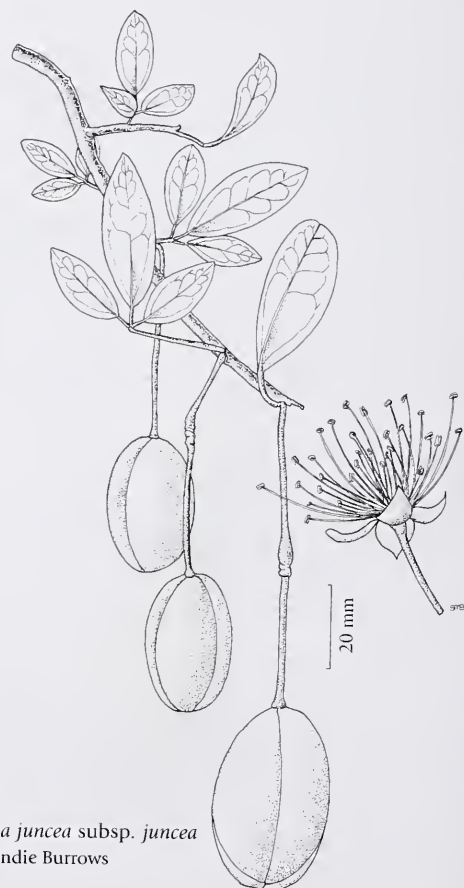
Piliostigma thonningii
Del. Sandie Burrows



Wahlenbergia virgata
Del. Victoria Goaman



Cleome monophylla
Del. Sandie Burrows



Maerua juncea subsp. *juncea*
Del. Sandie Burrows

Wahlenbergia capitata (Baker) Thulin

Lightfootia capitata Baker [Nyika, Whyte s.n. (K, holo.)].

Annual or perennial herb with long branches from near the base, stems finely ribbed, hairy; leaves widely-spaced, linear-lanceolate, margins shallowly toothed; flowers in terminal clusters, blue or whitish, split deeply into 5 narrow lobes; in woodland or upland grassland, old cultivated areas, usually on sandy soils. Zimbabwe to D.R.C. and Tanzania.

Source. *Flora zambesiaca* 7(1): 99 (1983).

Malawi. Nyika National Park, Nchenachena Spur, 2,000 m, 1946, *Brass* 17348 (BM, BR, EA, K, MO, PRE, SRGH); Chosi Viewpoint, 2000, *Chapama* 140 (MAL).

Wahlenbergia hirsuta (Edgew.) Tuyn

Lightfootia hirsuta (Edgew.) E. Wimm. ex Hepper

Erect annual herb 40–300 mm tall, with several widely spreading, hairy branches; leaves few, oblanceolate to broadly elliptic, more or less hairy, shallowly toothed; flowers small, deeply lobed, blue to white; in grassland, woodland or sandy disturbed areas. Widespread in tropical Africa; also in Madagascar, India, and Nepal.

Malawi. Nyika National Park, with locality or collector (Mill 1979).

Wahlenbergia huttonii (Sond.) Thulin

Lightfootia lycopodioides Mildbr.; *Lightfootia huttonii* Sond.

Erect perennial herb or subshrub 10–500 mm tall with several stems from the base; leaves numerous, tightly packed, linear, margin entire; flowers small, few, terminal, blue or mauve; in montane grassland, in rocky places, rock cracks. South Africa, Malawi, and Tanzania.

Source. *Flora zambesiaca* 7(1): 98 (1983).

Malawi. Nyika National Park, Nyika S. towards Mbuzinandi, 2,300 m, 1970, *Pawek* 3411 (K); Mpopoti, 2000, *Willis & Luhanga* 74 (MAL, PRE).

Wahlenbergia napiformis (A.DC.) Thulin

Lightfootia napiformis A.DC.

Perennial herb with a few erect stems to 1 m tall; leaves linear to lanceolate, margin jagged; flowers blue, purple or yellowish to whitish, split almost to base into 5 linear lobes; in deciduous woodland, grassland, old cultivation, roadsides, usually on sandy soils. Ethiopia southwards through tropical Africa to Namibia and Zimbabwe.

Source. Brummitt (1973).

Malawi. Nyika National Park, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Synge* 152 (K).

Wahlenbergia ramosissima (Hemsl.) Thulin subsp. **ramosissima**

Lightfootia ramosissima (Hemsl.) E. Wimm. ex Hepper

Erect annual herb 100–500 mm tall, hairy or not; leaves linear to elliptic,

finely toothed, hairy or not; flowers white or blue to yellowish, small, hypanthium 10-nerved; in upland grassland, in sandy areas, roadsides. Malawi, Angola, Cameroon, and Nigeria.

Source. *Flora zambesiaca* 7(1): 108 (1983).

Malawi. Nyika National Park, Lake Kaulime, 2,340 m, 1970, *Brummitt* 10782 (K, MAL, SRGH, UPS).

Wahlenbergia ramosissima (Hemsl.) Thulin subsp. **subcapitata** Thulin

As for subsp. *ramosissima*, but the hypanthium bearing only 5 veins. Habitat similar. N. Malawi and S. Tanzania.

Source. *Flora zambesiaca* 7(1): 109 (1983).

Malawi. Nyika National Park, track to Chisanga Falls, 1,800 m, 1973, *Pawek* 6590 (K).

Wahlenbergia subaphylla (Baker) Thulin subsp. **thesioides** Thulin

Lightfootia subaphylla Baker

Erect perennial herb 200–500 mm tall, with few to many stems; leaves lanceolate, 2–7 mm long, margins jagged; flowers white or bluish, deeply split into linear lobes; in upland grassland, often appearing after burning. N. Malawi, Tanzania, and D.R.C.

Source. *Flora zambesiaca* 7(1): 98 (1983).

Malawi. Nyika National Park, bridge below Chelinda Camp, 2,200 m, 1958, *Robson* 646 (K, SRGH).

Wahlenbergia undulata (L.f.) A.DC.

Erect, slender, perennial or annual herb 200–900 mm tall; leaves alternate, scattered, more or less lanceolate, margin uneven; flowers large, bell-shaped, blue, white or yellow, deeply 5-lobed; in montane grassland, seasonally moist areas, rocky hillsides, often weedy in disturbed areas. South Africa to Angola and Tanzania; also on Madagascar.

Source. *Flora zambesiaca* 7(1): 91 (1983)

Malawi. Nyika Plateau, Nyamkowa, 2,030 m, 1978, *Pawek* 13855 (K).

Wahlenbergia virgata Engl. ✧

Erect branched perennial herb to 700 mm tall, leaves alternate, few, scale-like; flowers white or bluish or yellowish, with 5 spreading lobes; in upland grassland, often on eroded areas such as roadsides. Sudan and Ethiopia southwards to South Africa.

Source. Brummitt (1973); *Flora zambesiaca* 7(1): 92 (1983).

Malawi. Nyika National Park, valley N. of Nganda, 1972, *Synge* 386 (K, MAL, SRGH, BR); near Nganda Hill, 2,300 m, 1962, *Tyrer* 815 (BM, BR, SRGH).

Zambia. Nyika National Park, by main road 4 km S.W. of Rest House, 2,150 m, 1958, *Robson* 242 (K, LISC, SRGH).

CAPPARACEAE

Cleome monophylla L. ✧

Erect annual herb, usually branched; leaves petiolate, linear-lanceolate, hairy; flowers in a raceme, petals 4, pink to mauve with a yellow band across the upper two petals; fruit a capsule to 100 mm long; a weed occurring in many vegetation types and over a wide range of altitudes. Throughout much of Africa; also in India.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Maerua juncea Pax subsp. **juncea** ✧

Small shrub or climber to 10 m tall; leaves simple or 3-foliate, leaflets oblong-elliptic, greyish; flowers cream, fluffy; fruit ellipsoid, to 30 mm long, smooth; in drier types of low-altitude woodland, but also at higher altitudes on termitaria in *Brachystegia* woodland. Botswana and Zimbabwe to D.R.C. and Tanzania.

Source. *Flora zambesiaca* 1(1): 218 (1960).

Malawi. Nyika National Park, without collecting details (Patel 1999); Mwanembe (Mwenembwe), 1903, *McClounie* 166 (K).

Excluded species

Cadaba kirkii Oliv.

Flora zambesiaca 1(1): 211 (1960) states: 'In lower-altitude, drier types of woodland or in thickets in river valleys or on termite mounds in *Brachystegia* woodland.' It is doubtful whether this collection is from the Nyika Plateau.

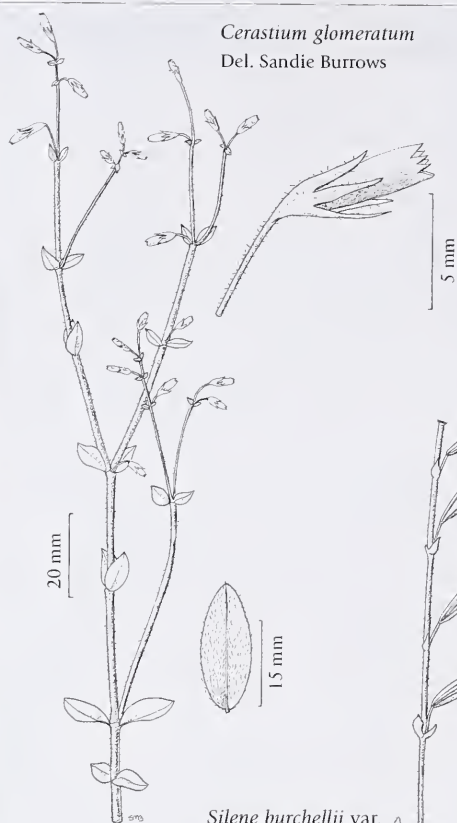
Source. *Flora zambesiaca* 1(1): 211 (1960).

Malawi. Nyika, 1896, *Whyte* 120 (K).

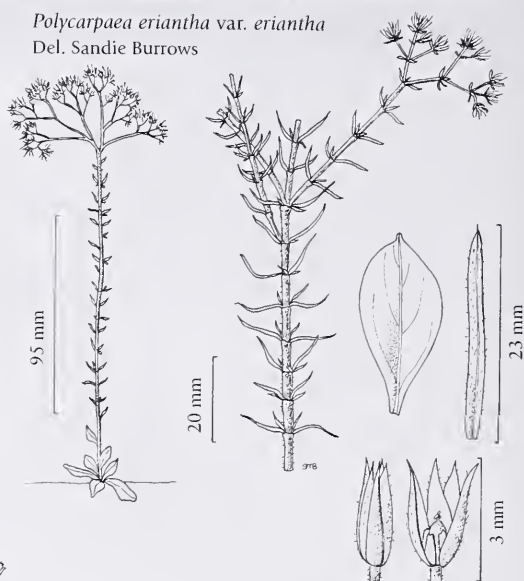
Cleome macrophylla (Klotzsch) Briq. var. **macrophylla**

This is a plant of low altitudes in dry woodland and it is unlikely that McClounie collected this species on Nyika.

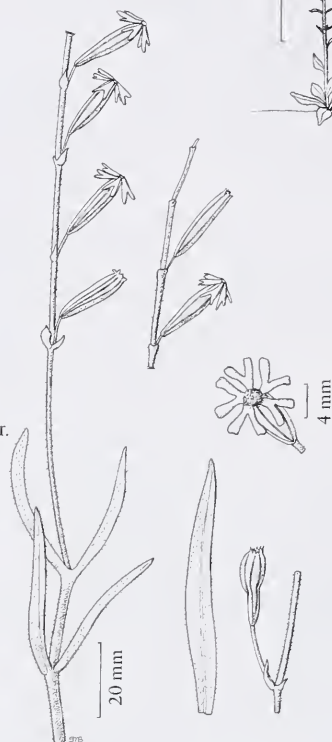
Cerastium glomeratum
Del. Sandie Burrows



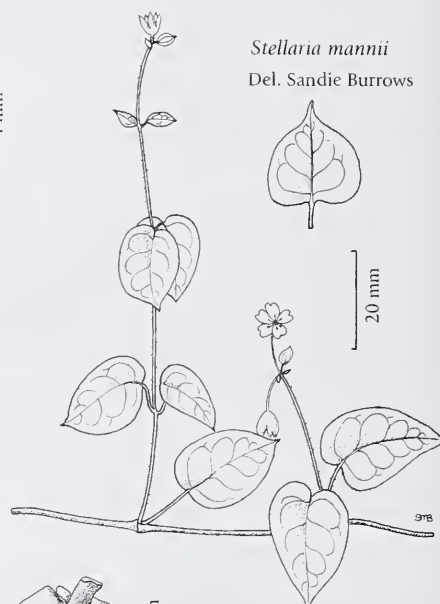
Polycarpha eriantha var. *eriantha*
Del. Sandie Burrows



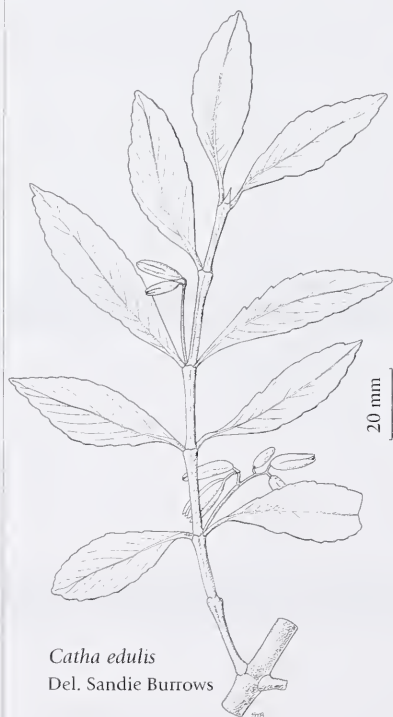
Silene burchellii var. *angustifolia*
Del. Sandie Burrows



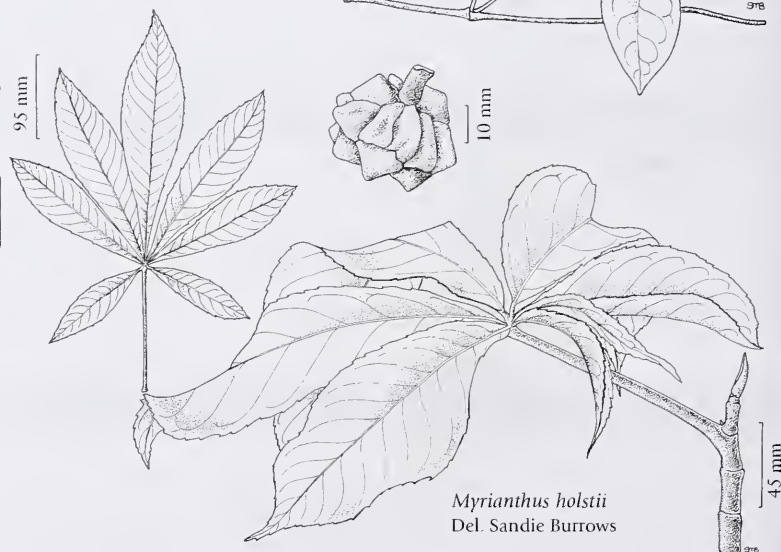
Stellaria mannii
Del. Sandie Burrows



Catha edulis
Del. Sandie Burrows



Myrianthus holstii
Del. Sandie Burrows



Source. *Flora zambesiaca* 1(1): 203 (1960).

Malawi. Nyika Plateau, without precise locality, 1903, *McClounie* s.n. (K).

Courbonia glauca (Klotzsch) Gilg

In low-altitude woodlands with a low rainfall. This not a high-altitude species and this collection is almost certainly not from Nyika.

Source. *Flora zambesiaca* 1(1): 214 (1960).

Malawi. Nyika Plateau, without precise locality, 1896, *Whyte* s.n. (K).

Maerua triphylla A.Rich.

This is a synonym of *M. cafra* (DC.) Pax, a South African taxon with one locality in Zimbabwe. This collection is perhaps of the 3-foliolate form of *M. juncea* (above).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

CARYOPHYLLACEAE

***Cerastium glomeratum** Thuill. ✧

sticky mouse-eared chickweed

Annual herb with straggling ascending, slightly sticky stems to 450 mm long; leaves opposite, broadly ovate to elliptic, with long silky hairs on both sides; flowers in terminal clusters, petals white, sometimes absent; an introduced cosmopolitan weed of both temperate and tropical regions. Not recorded for Malawi in *Flora zambesiaca* (1961).

Malawi. Nyika National Park, with locality or collecting details (Mill 1979).

Polycarpaea eriantha Hochst. ex A.Rich var. **eriantha** ✧

Erect annual herb to 190 mm tall; leaves opposite or whorled, basal leaves spatulate, stem leaves linear, hair-tipped, woolly at first, hairless with age; flowers subterminal, in arched, more or less horizontal inflorescences, petals very small (0.6 mm long); in open woodland and grassland on sandy soils, often a weed of cultivation. Widespread in tropical Africa.

Malawi. Nyika National Park, without locality of collecting details (Mill 1979); Nyika, Nyamkowa, 1903, *McClounie* 168 (K).

Silene burchellii Otth in DC. var. **angustifolia** Sond. ✧

Erect perennial herb to 700 mm tall, all parts more or less hairy; leaves in pairs, linear to oblanceolate; flowers single in leaf axils, tubular, with 5 bifid spreading or reflexed lobes, pink to purplish; in *Brachystegia* woodland and grassland. Widespread in the eastern half of Africa; also in Arabia.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Zambia. Nyika Plateau, without precise locality, 1956, *Benson* 137 (BM).

Stellaria mannii Hook.f. ✧

Weak procumbent or ascending herb, often rooting at the nodes, internodes with glandular hairs; leaves petiolate, ovate, with scattered hairs; flowers in lax terminal clusters, with 5 white bifid petals; on floor of evergreen forest. Zimbabwe to Cameroon and Ethiopia; also in Madagascar. This collection is the first record for Malawi (N.).

Source. Brummitt (1973).

Malawi. Nyika National Park, Kawozya, forest E. of summit, 1972, *Brummitt & Syngae* 216 (K, MAL, SRGH).

CECROPIACEAE

Myrianthus holstii Engl. ✧

Myrianthus mildbraedii Peter

Tree to 20 m tall, usually less, sometimes bearing stilt-roots; leaves palmate with 3–7 radiating leaflets, leaflets oblanceolate, margins regularly serrate-dentate, sparsely and minutely hairy, more so below; flowers in paired branching clusters; fruit a segmented slightly angular cluster 50–80 mm

diameter, green; in evergreen forest; 850–2,050 m. Zimbabwe northwards to Zambia, D.R.C., Uganda, and Kenya.

Source. *Flora zambesiaca* 9(6): 77 (1991).

Malawi. Nyika National Park, Kasyaula Forest (Dowsett-Lemaire 1985: 316).

Zambia. Nyika Plateau, Manyenjere and Kasoma Forests (Dowsett-Lemaire 1985: 316).

CELASTRACEAE

Catha edulis (Vahl) Forssk. ✧

khat, bushman's tea, Chirinda redwood; *Chichewa*: mdimamadzi, mdyamadzi

Small tree 2–15 m tall with somewhat drooping branchlets; leaves 55–110 x 15–45 mm, bright green, glossy above, hairless throughout; fruit a red capsule 6–10 mm long; in woodland, forest margins, and thicket, rare to occasional on Nyika; to 2,250 m. E. Cape to Ethiopia. Important narcotic plant in N.E. Africa.

Source. Dowsett-Lemaire (1985: 315).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); without collecting details (Patel & Overton 2001).

Malawi. Nyika Plateau, Kasyaula and Zovochipolo, *Dowsett-Lemaire* 346 (OXF).

Chichewa: ligoga

Shrub or small tree up to 6 m high, glabrous, spinescent; leaves yellowish green, coriaceous, with black dots owing to dematiaceous hyphomycetes, narrowly obovate-oblong to broadly ovate or ovate-oblong, reticulate venation obvious on both sides; flowers white, unpleasantly scented; fruit a smooth, globose capsule, ca 7 mm long, seed glossy brown, aril partially covering seed; in forest margins and ravines; 900–1,700 m. Tanzania and Malawi.

Source. Brummitt (1973).

Malawi. Nyika National Park, N.W. foot of Nganda, 1972, *Syngae* 378 (K, MAL, SRGH); E. of Dembo Bridge, 2000, *Winter* 4044 (MAL).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest area), 1952, *White* 2560 (FHO, K).

Elaeodendron buchananii (Loes.) Loes. ✧

Cassine buchananii Loes.

Evergreen tree 5–12 m tall, rarely to 25 m; leaves opposite, mainly elliptic, margin finely toothed; flowers in axillary sprays; fruit a pale yellow drupe 13–20 mm long, one- or two-seeded; in montane forest, riverine forest, and on termitaria in woodland; 1,000–2,000 m. Malawi northwards throughout much of tropical Africa.

Source. Brummitt (1973).

Malawi. Nyika National Park, by lower Mondwe River, 1972, *Brummitt & Syngae* 231 (K); Kasyaula, 2,000 m, *Dowsett-Lemaire* 344 (White et al. 2001).

Gymnosporia buxifolioides Loes.

Maytenus heterophylla sensu N.Robson, pro parte, non *Gymnosporia heterophylla* (Eckl. & Zeyh.) Loes.

Gymnosporia buchananii Loes. ✧

Maytenus buchananii (Loes.) R.Wilczek

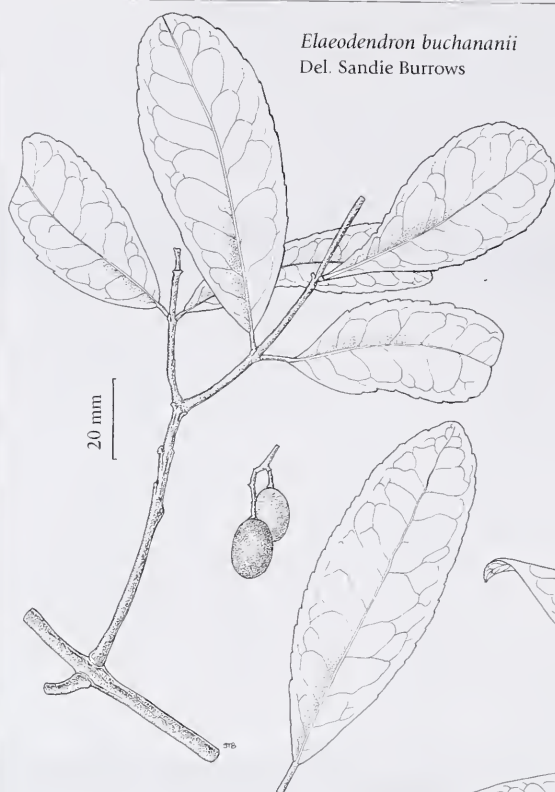
Spiny shrub or small tree to 8 m high, sometimes scandent, leaves alternate, elliptic to oblanceolate, margin serrulate; fruit a red/pink 3-locular smooth capsule, seeds red-brown with a white or yellow aril at base; in riverine forest or disturbed mid-altitude forest; 900–1,600 m. Malawi and Zambia to Angola, W. Africa, Kenya, Sudan, and Ethiopia, also in Arabia. **Malawi.** Nyika Plateau, without locality or collecting details (Mill 1979).

Gymnosporia harveyana Loes.

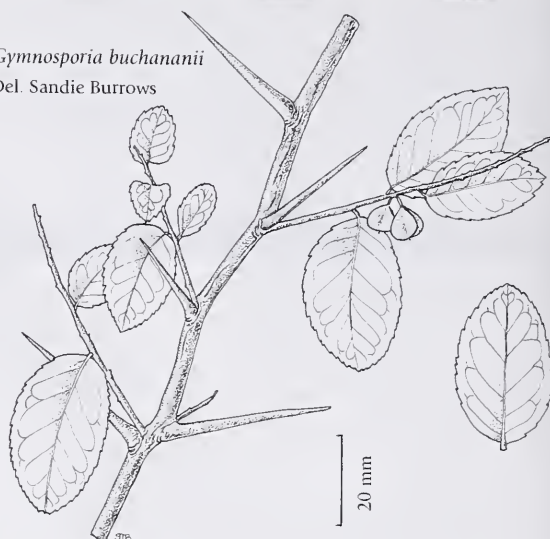
Maytenus mossambicensis sensu Blakelock, pro parte, non *Gymnosporia mossambicensis* (Klotzsch.) Loes.

Lax shrub or small tree to 6 m, bearing long slender thorns; leaves alternate, ovate to elliptic, margin sharply serrate, hairless; fruit a pinkish 3-

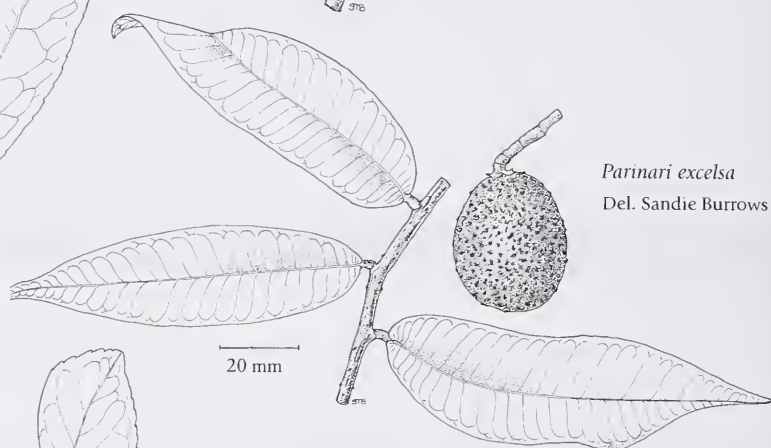
Elaeodendron buchananii
Del. Sandie Burrows



Gymnosporia buchananii
Del. Sandie Burrows



Parnari excelsa
Del. Sandie Burrows



Maytenus undata
Del. Sandie Burrows



Mystroxydon aethiopicum subsp. *schlechteri*
Del. Sandie Burrows

valved capsule borne in 2–3 in a long-stalked cluster; in understorey in evergreen forest and forest margins; 150–2,000 m. E. Cape to S. Tanzania; only in the submontane forests of the eastern escarpment of Nyika.

Source. Dowsett-Lemaire (1990: 76); White *et al.* (2001: 188).

Malawi. Nyika Plateau, Mwenembwe, Dowsett-Lemaire 323 (FHO).

***Gymnosporia senegalensis* (Lam.) Loes.**

Maytenus senegalensis (Lam.) Exell

Chichewa: mchemba

Shrub or small spiny tree to 8 m, sometimes losing its thorns with age; leaves glaucous-green; fruit a smooth red-pink, globose, 2-valved capsule, seeds red-brown with a fleshy pink aril; in deciduous woodland of various types and wooded grassland; 0–1,800 m. South Africa to Senegal, Spain, Egypt, Arabia, and India; also on Madagascar.

Malawi. Nyika Plateau, without locality or collecting details (Patel 1999).

Maytenus acuminata* (L.f.) Loes. var. *acuminata

Shrub or tree to 15 m tall, without spines, leaves dark green, more or less glossy above, ovate to lanceolate, tip attenuate, with silky threads when broken gently; fruit a yellow to red 3-lobed capsule, seeds orange, completely enclosed by the aril; in montane and riverine forest; 1,600–2,450 m. South Africa (Cape) to Cameroon and Kenya.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, White 2805 (BM, FHO, K).

***Maytenus undata* (Thunb.) Blakelock ✧**

Evergreen tree to 12 m tall; leaves alternate, leathery, coarsely dentate, of-

ten whitish below; in various types of forest and scrub, often near rivers. Widespread in Africa.

Malawi. Nyika National Park, without locality, Dowsett-Lemaire 378 (White *et al.* 2001); without locality or collecting details (Mill 1979).

***Mystroxydon aethiopicum* (Thunb.) Loes. subsp. *schlechteri* (Loes.) R.H.Archer ✧**

Cassine aethiopica Thunb.; *Elaeodendron aethiopicum* (Thunb.) Oliv.

Chichewa: mpakate, mkokopa; **Yao:** mlanjilo, msongwe

Shrub or small evergreen tree to 12 m; leaves ovate to oblong, apex rounded, leathery, subglossy above, margins entire or finely toothed; fruit a smoothish fleshy red berry 8–20 mm diameter; in montane forest, riverine forest, and in *Brachystegia* woodland; 0–2,450 m. Widespread in Africa, also on Madagascar and the Indian Ocean islands.

Source. Brummitt (1973).

Malawi. Nyika National Park, by lower Mondwe River, 1972, Brummitt & Synge 229 (K, MAL).

Zambia. Nyika National Park, Manyenjere and Chowo Forests (Dowsett-Lemaire 1985: 316).

***Pleurostyliya africana* Loes. ✧**

Chichewa: mjawa, msembe; **Yao:** mjawa, chickenka

Small evergreen tree 2–16 m tall; leaves opposite, lanceolate to elliptic, apex narrowly pointed; flowers in axillary clusters; fruit small, berry-like, green, 7–8 mm long; on rocky hillsides, termitaria, deciduous (miombo) woodland, and forest margins; 420–1,100 m. Zimbabwe to Angola and Kenya. Not synonymous with the South African *P. capensis*, as suggested by Archer in White *et al.* (2001: 190).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

CHRYSOBALANACEAE

***Magnistipula butayei* De Wild. subsp. *bangweolensis* (R.E.Fr.) F.White ✧**

Magnistipula bangweolensis (R.E.Fr.) R.A.Graham

Small to medium evergreen tree, bark rough, dark grey; leaves oblong-ovate, apex rounded or shortly pointed; flowers hairy, curved; fruit a drupe 50 x 30 mm, finely hairy; in high-rainfall miombo woodland, often on sandy soils. Malawi, Zambia, and Tanzania.

Malawi. Nyika National Park, Chisanga Falls, 2000, Burrows & Burrows 6768 (PRE); Thazima Gate, 2000, Phiri 3628 (UZL).

***Parinari curatellifolia* Planch. ex Benth.**

Parinari mobola Oliv.; *Parinari curatellifolia* subsp. *mobola* (Oliv.)

R.A.Graham

mobola plum, hissing tree; **Chichewa:** maula tengo, mpundi; **Tumbuka:**

mbula, mpempum muula; **Yao:** chakate, mpemba

Small to medium-sized evergreen tree to about 15 m tall, bark rough grey; leaves elliptic oblong, rounded apex, venation prominent; fruit a large thinly-fleshed berry with large stone; scattered in miombo woodland or forming pure stands in grassland. Throughout tropical Africa. The fruit is edible and tasty; kernels of this or *P. excelsa* have been found in archaeological

sites on Nyika.

Malawi. Nyika National Park, Mondwe Valley, 1972, Synge 471 (K, MAL, SRGH, FHO); between Chisanga Falls and Kaparekezi Gate, 2000, Salubeni & Mwanyambo 6833 (MAL).

Zambia. Nyika National Park, Gamba School, 2000, Phiri 3834 (UZL).

***Parinari excelsa* Sabine ✧**

Parinari whytei Engl.

Chichewa: muula; **Tumbuka:** mukanjaula; **Tonga:** mkangajula; **Yao:** mpemba, machende a nguluve (fruits)

Large evergreen tree to 35 m tall, rather similar to *P. curatellifolia*, but the leaves with a distinct drip-tip; fruit similar; (often common) in evergreen forest, riverine forest, and as forest relics in grassland. Malawi and Zambia to Tanzania, Uganda, and W. Africa; also widely distributed in S. America.

Source. Mill (1979).

Malawi. Nyika National Park, Kasyaula Forest, no specimen cited (Dowsett-Lemaire 1985).

Zambia. Nyika Plateau, Manyenjere, Kasoma, and Chowo Forests, no specimen cited (Dowsett-Lemaire 1985).

CLUSIACEAE

***Garcinia buchananii* Baker ✧**

granite garcinia; **Chichewa:** mpimbi; **Tumbuka:** musongwa; **Yao:**

mpimbi, ntundira

Evergreen small tree 1.5–15 m tall, latex yellowish; leaves opposite, leathery, shortly pointed or mucronate; fruit a fleshy berry 20–25 mm diameter, 3-seeded; in woodland, riverine forest, and rocky hillsides; 500–1,700 m. Zimbabwe to Kenya and Sudan. It is unclear if *G. buchananii* and *G. huillensis* Welw. ex Oliv. are synonymous or distinct species. Lebrun & Stork (1991) treat the two species as distinct from one another and we have followed them. White *et al.* (2001) treat *G. buchananii* as a synonym of *G. huillensis*.

Source. Dowsett-Lemaire (1985: 361); White *et al.* (2001).

Malawi. Nyika Plateau, below N. Rukuru Falls, Dowsett-Lemaire 326 (her-

baria not stated).

***Garcinia kingaensis* Engl.**

Garcinia mlanjensis Dunkley

northern forest garcinia; **Chichewa:** msongwi; **Yao:** mtundira, ntundira
Evergreen tree 4–13 m tall, latex yellow; leaves opposite, thickly leathery, entire; fruit a fleshy berry 10–25 mm diameter, orange-yellow when ripe; an understorey tree in evergreen Afromontane forest and wooded ravines; 1,350–2,200 m. Zimbabwe to S. Tanzania. The ripe fruit is edible and tasty.

Malawi. Nyika National Park, Kasyaula and Zovochipolo Forests, without collecting details (Dowsett-Lemaire 1985).

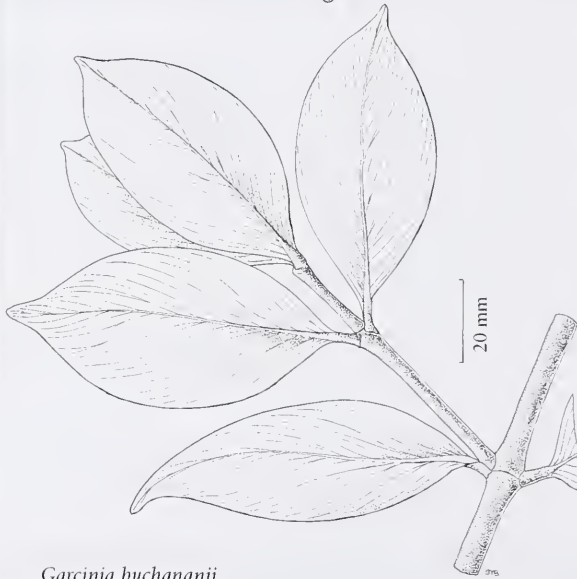
Zambia. Nyika Plateau, without precise locality, 1952, White 2796 (FHO).



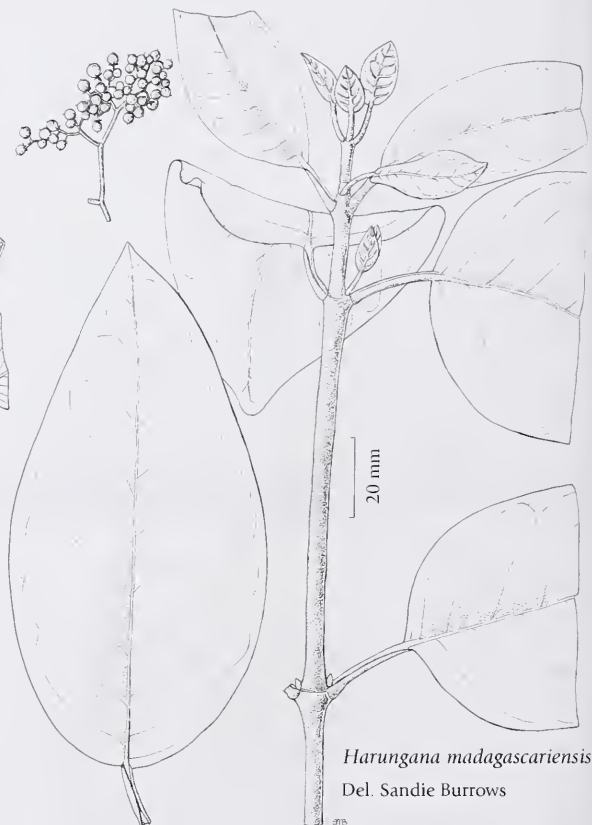
Pleurostylia africana
Del. Sandie Burrows



Magnistipula butayi
subsp. *bangweolensis*
Del. Sandie Burrows



Garcinia buchananii
Del. Sandie Burrows



Harungana madagascariensis
Del. Sandie Burrows

***Garcinia volkensii* Engl.**

Evergreen tree to 15 m tall, with a white latex; leaves opposite, rarely in whorls of 3, lanceolate to obovate, veins prominent, leathery; fruit a round 2- to 4-lobed berry, 10–30 mm diameter, yellow when ripe; understorey tree of evergreen mist forest; 1,300–2,000 m. Mozambique, Malawi, Zambia, E. D.R.C., Tanzania, and Kenya. White *et al.* (2001) controversially regard the South African *G. gerrardii* Harv. ex Sim as synonymous with *G. volkensii*.

Source. *Flora zambesiaca* 1(2): 397 (1961).

Malawi. Nyika Plateau, eastern escarpment forests (Chapman & White 1970: 126); Panda Peaks, 1903, *McClounie* 151 (K).

***Harungana madagascariensis* Lam. ✧**

Chicheva: mbuluni; *Tumbuka:* mtumu, musuwasuwa; *Yao:* mtumu, ntunungu

Shrub or tree to 12 m tall, sap orange, turning red when dry; leaves opposite, ovate, dark green hairless above, rusty tomentose below; flowers in large terminal inflorescences, white, sweetly scented; fruit a small drupe (ca 4 mm), yellowish; in secondary forest-scrub, high-rainfall woodland, and forest margins; up to 1,800 m. Widespread in tropical Africa from Zimbabwe northwards. This is a typical quick-growing pioneer tree of low-altitude forests. An orange dye is obtained from the sap; the tree also has several medicinal uses. Probably confined to the lower eastern slopes of the plateau.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Nchenachena, 1946, *Brass* 17379 (BM, K, PRE, SRGH).

***Hypericum conjungens* N. Robson**

Shrub or perennial herb 0.3–1.5 m tall; leaves opposite, 20–30 x 6–12 mm, ovate, apex rounded, base rounded to amplexicaul; flowers numerous, yellow, red-tinged or red-veined, with dark marginal glandular dots; fruit a 3-valved capsule; montane grassland and forest margins; 1,800–2,550 m. Zambia and Malawi to E. D.R.C. and Kenya.

Malawi. Nyika National Park, forest 4 km W. of Nganda, 1972, *Brummitt & Syngae* 75 (K, MAL, SRGH, LISC, EA, PRE, BR, FHO).

Zambia. Nyika Plateau, 4 km W. of Rest House, 1958, *Robson* 269 (BM, K, LISC, SRGH, UZL).

***Hypericum lalandii* Choisy**

Annual (or perennial) herb with usually unbranched erect square stems 80–700 mm long; leaves opposite, widely-spaced, lanceolate to narrowly elliptic, 7–23 mm long, hairless; flowers yellow or orange with petals 6–8 mm long, without glands; fruit a 3- to 4-valved capsule; in marshy areas in grassland above 1,200 m. Widespread in Africa.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Hypericum peplidifolium* A. Rich.**

Perennial herb from an underground rootstock, stems round, tufted, prostrate to ascending, branched; leaves 3–26 x 2–17 mm, ovate to elliptic or linear-oblong, with numerous glandular dots; flowers rather few, petals 7–8 mm long, yellow, red-tinged, with glands along the margin; fruit fleshy, indehiscent; in a wide variety of habitats in high-rainfall areas, sometimes in disturbed ground; 1,100–2,000 m. In the highlands of eastern Africa (Ethiopia to Zimbabwe) and Angola.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); approach to Mwanda Ridge, 2000, *Winter* 4172 (MAL, PRE, UZL).

Zambia. Nyika Plateau, 4 km W. of Rest House, 1958, *Robson* 267 (BM, K, LISC, SRGH).

***Hypericum quartinianum* A. Rich.**

Tumbuka: kapyafolong'ombe

Shrub or small tree to 4.5 m tall; leaves opposite, 35–90 x 5–27 mm, ovate-lanceolate to elliptic, hairless; flowers large, bright yellow, petals 20–40 mm long; fruit a 5-valved capsule; in scrub along rivers, rocky outcrops, montane grassland, and woodland; 1,120–2,250 m. Zambia and Malawi to Ethiopia.

Source. Brummitt (1973).

Malawi. Nyika National Park, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Syngae* 149 (K, MAL).

Hypericum revolutum* Vahl subsp. *revolutum

Yao: nchejeu

Much-branched shrub or small tree 1–6 m tall; leaves decussate, opposite, small, 20–30 x 2.5–6 mm, lanceolate, hairless; flowers large, bright yellow, petals 25–30 mm long; fruit a 5-valved capsule; in riverine scrub, forest margins, and mist belt thicket; 1,800–2,900 m. Widespread in the highlands of Africa; also on Madagascar, Réunion, the Comores, and Saudi Arabia.

Source. *Flora zambesiaca* 1(2): 381 (1961); Brummitt (1973).

Malawi. Nyika National Park, W. foot of Nganda, 1972, *Brummitt & Syngae* 31 (K, MAL); Chelinda Dam, 2000, *Chapama* 200 (MAL).

Zambia. Nyika Plateau, without precise locality, 1955, *Lees* 95 (K).

***Hypericum scioanum* Chiov. ✧**

Perennial herb with procumbent square stems up to 300 mm long; leaves 3–9 x 2–5 mm, apex rounded, base cordate or amplexicaul; flowers few or single, yellow to orange, petals 2–6 mm long; fruit a normally 3-valved capsule; in damp places, usually in acid peat; 2,200–2,300 m. The southernmost and the only locality of this taxon in the *Flora zambesiaca* area; extending to Ethiopia.

Source. *Flora zambesiaca* 1(2): 386 (1961).

Malawi. Nyika Plateau, Lake Kaulime, 1958, *Robson* 291 (BM, K, LISC, SRGH); Lake Kaulime, 2000, *Burrows & Burrows* 6866 (MAL, PRE).

***Psorospermum febrifugum* Spach ✧**

Rhodesian holly; *Chicheva:* mtsiloti, mdima; *Tumbuka:* kabvundura;

Yao: msilanyama

Shrub or small much-branched tree 1–6 m tall, bark flaking to corky; leaves opposite, ovate to elliptic, to 110 x 80 mm, dark green, hairless above, rusty or whitish below; flowers in terminal clusters, white to yellowish, red-streaked; fruit a bright red berry, ca 10 mm diameter; in open deciduous woodlands and wooded grasslands up to 1,950 m. Zimbabwe northwards to Sierra Leone and Sudan. This tree has a number of medicinal uses. In addition, when building a new village, the Chichewa bury some of its roots at the four corners of the village to protect it from witches and lions; hence this tree is respected and not cut for firewood (Williamson 1975).

Malawi. Nyika National Park, Chisanga Falls, 2000, *Chapama* 152 (MAL); without locality or collecting details (Patel 1999).

COMBRETACEAE

***Combretum collinum* Fresen.**

Chicheva: nalitenjere; *Tumbuka:* chinama, kadale, kakunguni; *Yao:* mkologonje

Small deciduous tree to 17 m, bark greyish, smooth to roughish, leaves opposite, alternate or whorled, more or less elliptic-oblong, greyish, hairy or not; fruit a 4-winged samara, minutely scaly or hairy, greyish purple; widespread in the woodlands of tropical Africa. Six subspecies are sometimes recognized within *C. collinum*; since we have not seen this collection, we are unable to establish its subspecific rank.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Combretum molle* R.Br. ex G. Don ✧**

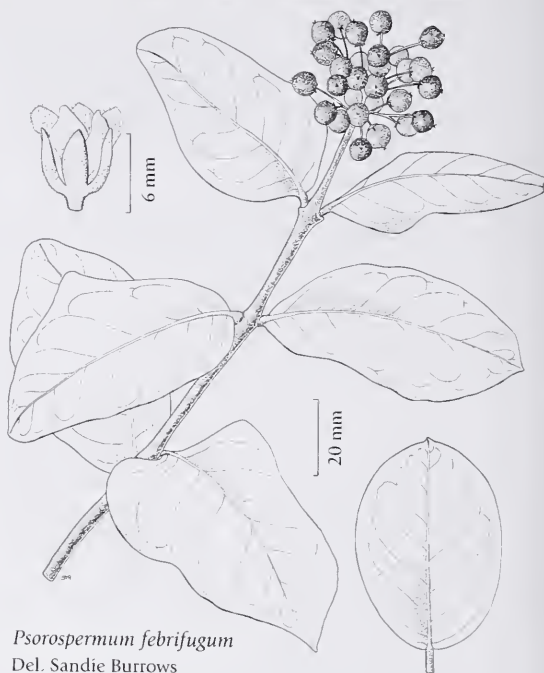
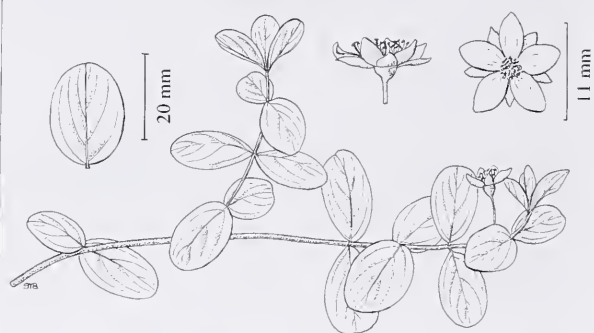
velvet-leaved combretum

Deciduous tree 6–16 m tall, bark dark and rough, leaves opposite, elliptic to rounded, variously hairy; fruit a woody 4-winged samara, russet when ripe; common in woodlands and savanna of many kinds. Widespread throughout the tropics of Africa; also in Arabia. The roots are used as a snakebite remedy and a decoction of the leaves drunk as an anthelmintic.

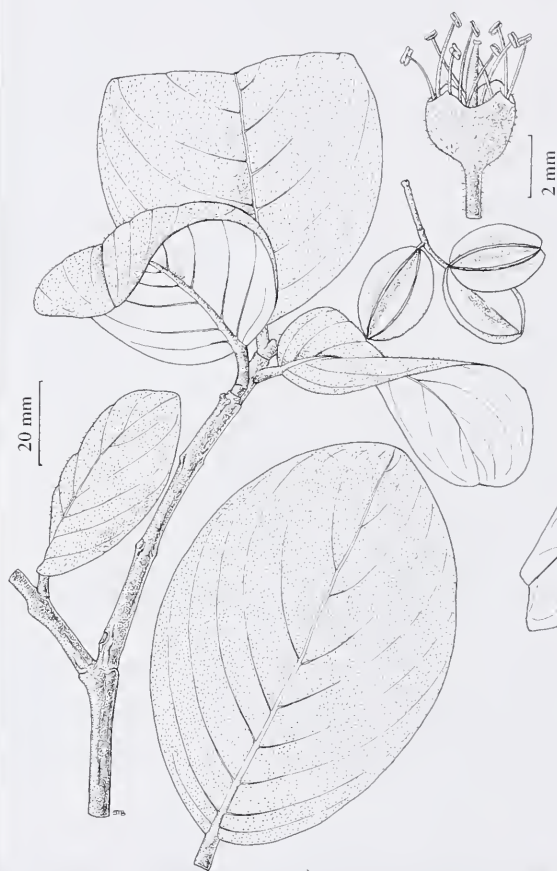
Source. Brummitt (1973).

Malawi. Nyika National Park, S. slopes of Kawozya, 1972, *Brummitt & Syngae* 193 (K, MAL).

Hypericum scioanum
Del. Sandie Burrows



Psorospermum febrifugum
Del. Sandie Burrows



Combretum molle
Del. Sandie Burrows



Terminalia stenostachya
Del. Sandie Burrows

Combretum zeyheri Sond.

Small to medium deciduous tree to 10 m tall, bark pale grey, smoothish to scaly; leaves opposite or in 3s, narrowly to broadly elliptic, more or less hairless with age, except for some minute scales; fruit a woody 4-winged samara, 50 x 50 mm or larger, hairless; in various types of woodland on many soil types, from medium to low altitudes. South Africa to Angola, D.R.C., Tanzania, and Kenya.

Malawi. Nyika National Park, Kasewerera, 2001, without collecting details (Patel & Overton 2002: 32).

CONNARACEAE

Rourea orientalis Baill.

Byrsocarpus orientalis (Baill.) Baker

Chichewa: msitoti; *Timbuka:* kamenenambuzi; *Yao:* msalanjazi

Deciduous rhizomatous shrub or small tree to 6 m tall, or scandent; leaves alternate, imparipinnate, leaflets more or less hairy, tips rounded, mucronate; flowers white to yellow, sweetly lemon-scented; fruit reddish brown, to 23 mm long, seed enclosed in a bright scarlet aril; in woodland, forest margins, and riverine forest; 200–1,600 m. Zimbabwe to Angola and Kenya. The dried leaves are eaten as a vegetable.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Terminalia stenostachya Engl. & Diels ❖

Small deciduous tree 5–12 m tall, bark dark grey, very rough-fissured, leaves spirally-arranged, elliptic, apex rounded; fruit reddish, elliptic, hard, woody, flattened, surrounded by a broad wing; in miombo woodland, savanna, on heavy soils at lower altitudes. Zimbabwe to D.R.C. and Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Rourea thomsonii (Baker) Jongkind ❖

Jaundea pinnata (P.Beauv.) Schellenberg

Woody liane, scandent shrub or small tree; leaves imparipinnate with 2 pairs of lateral leaflets; flowers in axillary clusters; fruit to 35 mm long, seeds enclosed in an orange aril; in evergreen forest or secondary forest; up to 2,200 m. N. Malawi northwards throughout much of tropical Africa.

Malawi. Nyika Plateau, Kasyaula forest, without collecting details (Dowsett-Lemaire 1985).

Zambia. Nyika Plateau, near Rest House, 1958, *Robson & Fanshawe 615A* (K, LISC).

CONVOLVULACEAE

Convolvulus sagittatus Thunb. ❖

Variable perennial with hairy prostrate or twining stems from a woody rootstock; leaves variable, linear to ovate-triangular or oblong, base lobed (sagittate), variously hairy; flowers white or pink with a purple or red centre; in woodland, grassland, roadsides, in sandy soils. Widespread in Africa. Three subspecies are recognized, two of which occur in northern Malawi; the subspecific identity of this collection is unknown.

Source. Brummitt (1973).

Malawi. Nyika National Park, N.W. of Nganda, 1972, *Synge 251* (K, MAL).

Dichondra micrantha Urban ❖

Dichondra repens auctt. afric., non J.R. & G.Forst.

Creeping herb with spaced kidney-shaped leaves on long stalks; flowers small, single, axillary, on long stalks; a weed in grassland, lawns, paths, and cultivated areas; 215–1,500 m. Widespread in Africa. *Dichondra repens*, a name previously used extensively in Africa, is confined to Australia and New Zealand (Lebrun & Stork 1997).

Source. *Flora zambesiaca* 8(1): 10 (1987); Lebrun & Stork (1997: 406).

Malawi. Nyika Plateau, Kasaramba View, 2,345 m, 1970, *Brummitt 10701* (BR, K, LISC, MAL, PRE, SRGH, UPS).

Evolvulus alsinoides (L.) L. ❖

Convolvulus alsinoides L.

A variable annual or perennial hairy herb, with few to several stems from the base, leaves alternate, narrowly elliptic or lanceolate, 5–45 x 1–15 mm, with silky hairs; flowers very small, blue, rarely white; in woodland, grasslands, thicket margins, roadsides, and cultivated areas; 0–1,500 m. Widespread throughout the tropics.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Ipomoea alpina Rendle

Perennial with several stems arising from a tuberous rootstock, stems to 1.7 m tall, all parts with bristly orange-brown hairs; leaves linear to oblong, 17–90 x 1.5–11.8 mm; flowers solitary in upper leaf axils, narrowly conical, orange-yellow to white; in woodland, or montane grassland, often on sandy soils; 1,050–2,750 m. Mozambique, Malawi, Zambia, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 8(1): 73 (1987).

Malawi. Nyika Plateau, Chelinda Bridge, 1964, *Hilliard & Burtt 4391* (K, SRGH); N. Rukuru Valley, 2000, *Winter 4122* (MAL).

Ipomoea fulvicaulis (Hochst. ex Choisy) Boiss. ex Hall. f.

Perennial herb from a woody rootstock, stems twining or erect, yellowish

hairy, leaves ovate to elliptic-oblong, 30–115 x 10–45 mm; flowers mauve or purple, hairy; in woodland, open forest, sometimes along roadsides; to 1,750 m. Three varieties are recognized, but it is uncertain to which this collection belongs.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Ipomoea involucrata P.Beauv. var. **involucrata**

Annual or perennial with prostrate or twining stems to ca 18 m, leaves ovate-cordate, to 135 x 130 mm, hairy; flowers pink with deep pink veins, tube white; in secondary woodland, rocky grassland, forest margins, a weed of cultivation and roadsides; 700–2,300 m. Throughout tropical Africa from W. Africa to Angola and South Africa.

Source. *Flora zambesiaca* 8(1): 76 (1987); White *et al.* (2001).

Malawi. Nyika Plateau, 12 km from Chelinda Camp on road to Katumbi, 2,260 m, 1970, *Brummitt 10843* (K, LISC, MAL, PRE, SRGH, UPS); without precise locality, 2,200 m, *Robinson 6248* (White *et al.* 2001: 213).

Ipomoea linosepala Hall.f. subsp. **linosepala**

Erect perennial much-branched herb from a thick rootstock, stems branched from the base, with yellowish hairs, leaves ovate to oblanceolate, 15–50 x 3–22 mm, densely hairy; flowers pink to cream with a purple centre; in woodland and montane forest; 1,280–1,550 m. Malawi, Zambia, and Angola.

Source. *Flora zambesiaca* 8(1): 73 (1987); Lebrun & Stork (1997).

Malawi. Chitipa District, just outside gate of Nyika National Park on Nthalire Road, 1,480 m, 1982, *Brummitt, Polhill & Banda 16197* (K).

Ipomoea linosepala Hall.f. subsp. **alpina** (Rendle) Lejoly & Lisowski

Ipomoea alpina Rendle

As for subsp. *linosepala*, but the leaves linear to oblong and the flowers yellow or white; in woodland, grassland and sandy soils; 1,050–2,750 m. Mozambique, Malawi, Zambia, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 8(1): 73 (1987); Lebrun & Stork (1997).

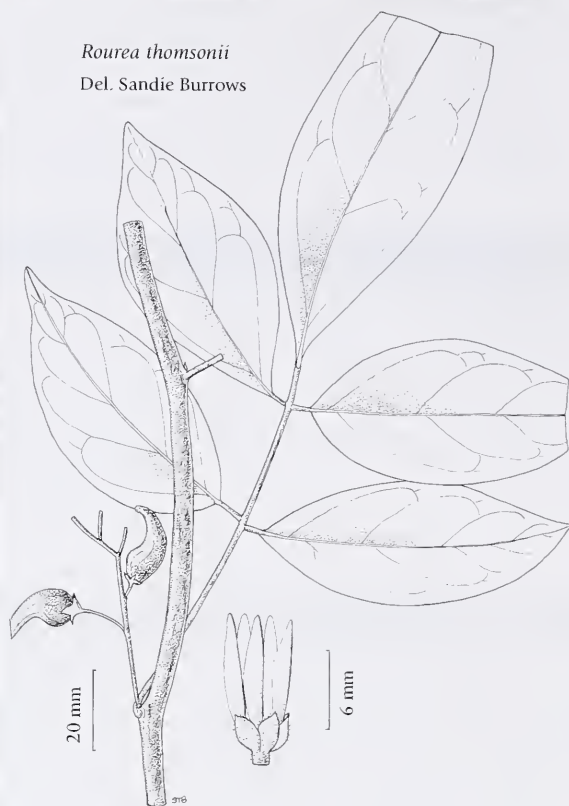
Malawi. Nyika National Park, Chelinda Bridge, 1964, *Hilliard & Burtt 4391* (K, SRGH).

Ipomoea mauritiana Jacq. ❖

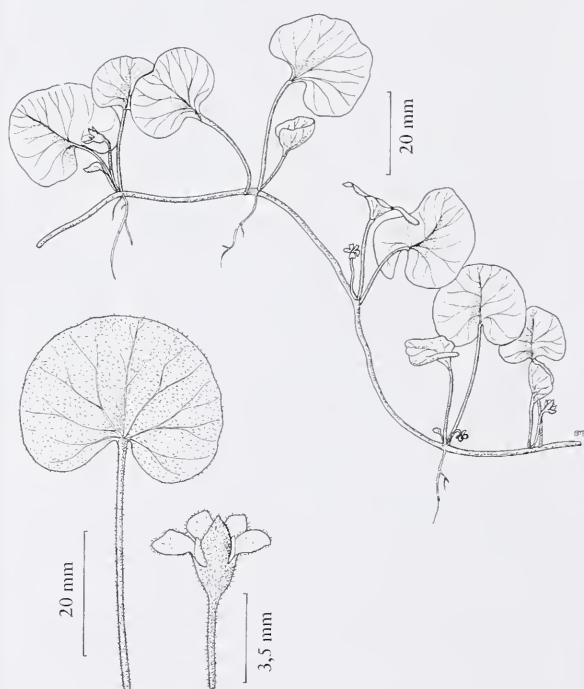
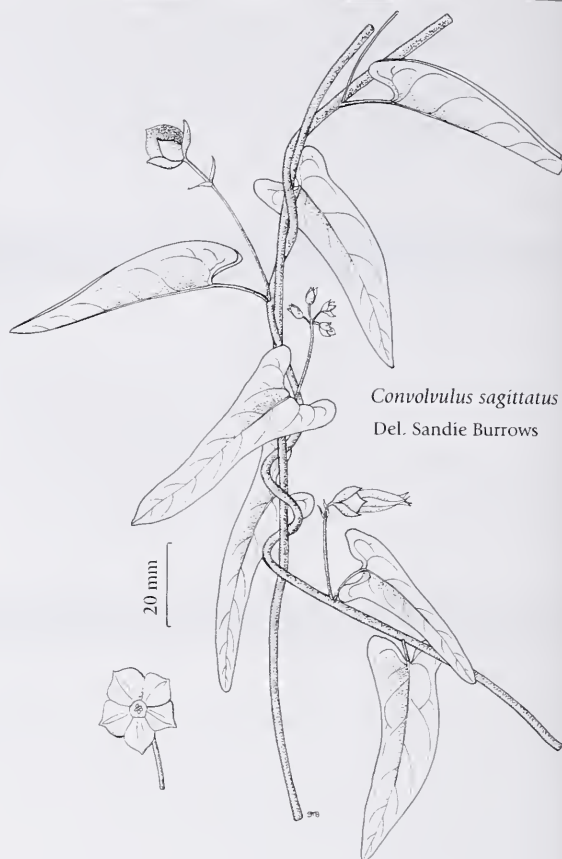
Ipomoea paniculata (L.) R.Br.; *Ipomoea eriosperma* P.Beauv.; *Ipomoea digitata* sensu Baker & Rendle

Large glabrous perennial twiner, becoming woody, leaves circular, entire or 3- to 9-palmately lobed, 50–200 x 60–150 mm; flowers reddish purple or

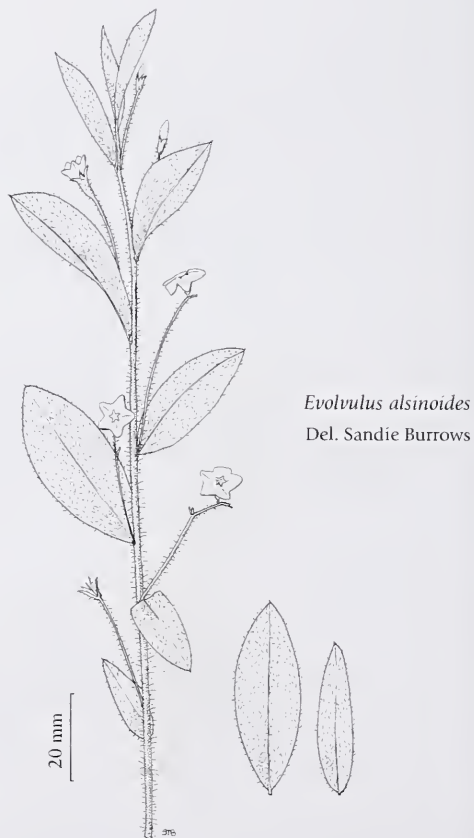
Rourea thomsonii
Del. Sandie Burrows



Convolvulus sagittatus
Del. Sandie Burrows



Dichondra micrantha
Del. Sandie Burrows



Evolvulus alsinoides
Del. Sandie Burrows

mauve with a darker centre; in open and riparian woodland, savanna with trees, river-banks, swamps, sandy soils, and roadsides; 20–2,440 m. W. and E. tropical Africa, circumtropical; also in South Africa (KwaZulu-Natal).

Source. *Flora zambesiaca* 8(1): 117 (1987).

Zambia. Nyika Plateau, 1903, McClounie 143 (K).

***Ipomoea recta* De Wild.**

Perennial herb with several erect or prostrate, densely hairy stems from a woody rootstock, leaves linear-lanceolate, 20–50 x 2–10 mm, hairy; flowers white or pink with a purple centre; in woodland, savanna or grassland, mainly in sandy soils; 700–1,300 m. Malawi, Zambia, D.R.C., and Tanzania

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Ipomoea tenuirostris* Steud. ex Choisy subsp. *tenuirostris

CORNACEAE

***Cornus volkensii* Harms ✧**

Afrocrania volkensii (Harms) Hutch.

African dogwood; Yao: mjuwajuwa

Evergreen tree to 30 m tall, bark rough, finely blocked, blackish; leaves simple, alternate, strongly veined, dark green, glabrous above, paler below, margins sharply toothed; fruit a small white berry; in upland forest, often a

Chichewa: kangakholowa, mbatata ya m'thengo

Stems prostrate or twining up to 3 m high, whole plant densely and coarsely hairy, leaves ovate to oblong, 40–120 x 35–90 mm; flowers pale purple with a dark purple throat; among rocks in grassland and at forest margins, in cultivated areas; 600–1,900 m. Zimbabwe to Cameroon and Ethiopia.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Chisimuka, 2001, without collecting details (Patel & Overton (2002: 42)).

Ipomoea wightii* (Wall.) Choisy var. *wightii

Stems prostrate or twining to 3.5 m high, covered in yellowish hairs, leaves ovate-cordate to 120 x 125 mm; flowers pale pinky purple with a dark purple throat; on forest margins or secondary montane scrub. South Africa to Uganda and Kenya; also on Madagascar and widespread in tropical Asia.

Source. Mill (1979).

Malawi. Nyika National Park, without locality, 1,900 m, 1967, Pawek 1388 (White *et al.* 2001: 213).

dominant canopy species; 1,200–3,000 m. Zimbabwe to Kenya and D.R.C.

Source. *Flora zambesiaca* 4: 637 (1978).

Malawi. Nyika National Park, Wovwe River, N. of Nganda, 1956, Chapman 295 (BM, K).

Zambia. Nyika Plateau, Manyanjere, Kasoma, and Chowo Forests, without collecting details (Dowsett-Lemaire 1985: 314).

CRASSULACEAE

***Crassula alba* Forssk. var. *alba* ✧●**

Crassula abyssinica A.Rich.

Perennial herb up to 0.9 m tall, similar to *C. vaginata*; roots rarely thickened; sheaths of lower leaves usually less than 10 mm long; flowers usually red; sepal margins acutely denticulate; petals acute, sometimes subtuberculate-scarious on the upper part of the outer surface, distinctly mucronate; anthers oblong, 0.5–1 mm long; woodland, savanna, and wooded grassland. Widespread though never common in tropical Africa, from N. Yemen to South Africa.

Source. *Flora zambesiaca* 7(1): 27 (1983).

Malawi. Nyika National Park, Chisanga Falls, 2000, Burrows & Burrows 6943 (MAL).

***Crassula globularioides* Britten**

Mat-forming dwarf shrub up to 130 mm tall, similar to *C. nyikensis* and *C. swaziensis*; leaves sessile, up to 22 x 12 mm, oblong to subcircular-obovate, erect and densely imbricate, with a red tinge, at least one surface glabrous, margin entire with white cilia; flowering stems up to 100 mm long, not leafy apart from 1 or 2 pairs of small bracts, adpressed, retrorsely hairy, inflorescence not more than 50 mm in diameter, flowers white, ca 4–5 mm long, sepals acute, ciliate along dorsal midline; on steep rock slopes in association with *Coleochloa* and *Streptocarpus*. Kenya to Malawi; apparently the first record for Malawi (N.).

Source. *Flora zambesiaca* 7(1): 33 (1983).

Malawi. Nyika National Park, Fingira Rock, 2000, Winter 4212 (MAL).

***Crassula granvikii* Mildbr.**

Crassula erubescens Bullock; *Crassula wrightiana* Bullock

Aquatic or terrestrial hairless perennial, with soft trailing base and tufted, erect stems; leaves 2–15 x 3.5 mm, pointed or blunt-tipped; flowers pinkish with darker centres, 2–3 mm in diameter; damp places along permanent streams or in water, at high altitudes. N. Malawi, Tanzania, Uganda, Kenya, Rwanda, Burundi, D.R.C., and Ethiopia.

Source. *Flora zambesiaca* 7(1): 6 (1983).

Malawi. Nyika National Park, Lake Kaulime, 1959, Richards 10467 (K).

***Crassula lanceolata* (Eckl. & Zeyh.) subsp. *denticulata* (Brenan) Tölken**

Crassula schimperii Fisch. & C.A.Mey. subsp. *transvaalensis* (Kuntze)

R.Fernandes var. *denticulata* (Brenan) R.Fernandes

***Crassula nyikensis* Baker f.**

Crassula whyteana Schönl. [Nyika Plateau, 1896, Whyte s.n. (B?, holo.; K, iso.)]

Low, much branched dwarf shrub similar to *C. globularioides* (perhaps only an ecological variant); leaves sessile, up to 12 x 10 mm, broadly ovate to subcircular, erect and densely imbricate, margin entire with contiguous white cilia; flowering stems up to 100 mm long, leafy, flowers white, ca 4 mm long; on bare gneiss and granite rocks. Endemic to the Nyika Plateau, or almost so.

Source. *Flora zambesiaca* 7(1): 35 (1983).

Malawi. Highest ridges of Nyika mountains, 1896, Whyte 491 (K); Mpopoti Peak, 2000, Izidine 65 (MAL, LMA).

***Crassula swaziensis* Schönl.**

Much branched dwarf shrub up to 200 mm tall, similar to *C. globularioides*; inflorescence axes usually densely hispid, leaves usually hairy on both sides, rarely glabrous, cilia very short; inflorescence usually more than 50 mm in diameter, sepals subobtus, hispid outside; shallow soil on rocks. May have been confused with *C. globularioides* prior to Fernandes (1983), but is tentatively retained here in the light of Fernandes' remarks concerning *C. illichiana* Engl. from Tanzania and Uganda being a possible variety of *C. swaziensis*, and the possibility that Nyika material may match this.

Source. *Flora zambesiaca* 7(1): 35 (1983).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Crassula vaginata* Eckl. & Zeyh.**

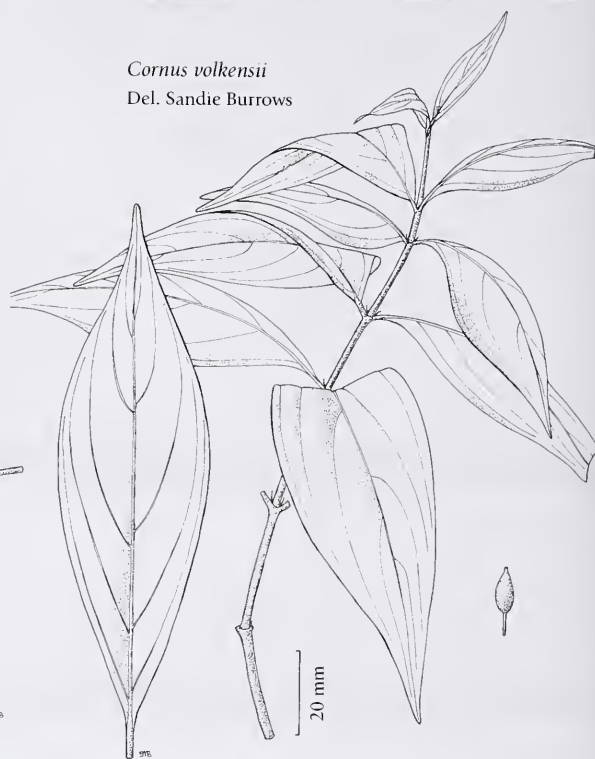
Crassula abyssinica var. *nyikensis* Schönl. [Type from Nyika; see spec. below]

Perennial herb up to 0.5(0.9) m tall, similar to *C. alba*, roots tuberous;

Ipomoea mauritiana
Del. Sandie Burrows



Cornus volkensii
Del. Sandie Burrows



Crassula alba var. *alba*
Del. Victoria Goaman



Kalanchoe crenata
Del. Sandie Burrows

leaves usually linear, the sheaths of lower leaves 10 (rarely less) to 30 mm long; flowers cream or pinkish white, sepals not denticulate, either entire or with obtuse marginal papillae, petals smooth, rounded or obtuse and indistinctly mucronate, anthers suborbicular, 0.3–0.5 mm long; in open grassland or among rocks on mountain slopes up to 2,680 m. Nigeria and Cameroon to Ethiopia, Angola, and South Africa.

Source. *Flora zambesiaca* 7(1): 25 (1983).

Malawi. Nyika Plateau, 1896, *Whyte* 165 (B, holo.); Chelinda Bridge, 2000, *Winter* 4062 (MAL, PRE).

Kalanchoe crenata (Andrews) Haworth ❖

Perennial succulent herb 0.3–2 m tall, glabrous to shortly glandular hairy; petiole 10–30 mm, lamina ovate to oblong, 30–130 x 20–120 mm wide, with blunt teeth; flowers orange to scarlet-orange or brick red in corymbs, sepals attenuate, corolla tube flask-shaped, 11.5–22 mm long, lobes 4.5–7.5 x (2.5)3.5–5 mm; in sunny places at edge of forests, along roadsides, by

streams. W. Africa, Uganda to South Africa, and apparently naturalised in Egypt; also in tropical America, India, and Malaysia.

Source. Brummitt (1973); Dowsett-Lemaire (1985).

Malawi. Nyika National Park, Kawoza, E. of summit, 1972, *Brummitt & Sygne* 212 (K, MAL).

Zambia. Nyika Plateau, Chowo Forest, cf. *Dowsett-Lemaire* 794 (K?).

Kalanchoe laciniata (L.) DC

Perennial or biennial herb to 1.2 m tall; indistinctly glandular; leaves divided; sepals not attenuate; corolla 12–14(16) mm long, yellow to yellow-green or orange, lobes 3.5–4.5 x 1.5–1.75 mm; stony places in shady situations, in sandy or humus-rich soil. Angola, Namibia, Ethiopia to Zimbabwe; also in India.

Source. *Flora zambesiaca* 7(1): 27 (1983).

Malawi. Nyika Plateau, 1896, *Whyte* 243 (K).

Excluded species

Kalanchoe lanceolata (Forssk.) Persoon

Similar to *K. crenata*, but is an annual herb, with sessile leaves and a hairy corolla, and occurs in drier areas. The fact that Mill (1979) did not list *K.*

crenata suggests that he misidentified it using this name.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

CUCURBITACEAE

Coccinea adoensis (A.Rich.) Cogn. ❖

Chichewa: chinkhaka, fwifwi, mwanaleza; *Ngoni:* mphwimphwi; *Tonga:* mleza

Stems annual, rising from a woody rootstock; leaves variable, broadly ovate, entire or deeply palmately 3- to 5-lobed; flowers cream to pink or orange; fruit 30–85 x 10–30 mm, smooth, bright red when ripe; in woodland, wooded grassland, and grassland; 100–1,900 m. South Africa to Ghana and N.E. Africa.

Malawi. Nyika Plateau, without locality or collecting details (Mill 1979).

Coccinea mildbraedii Harms

Scandent climber to 10 m or more; leaves ovate to orbicular, palmately 5-lobed, glabrous, margins finely toothed; flowers pale orange-yellow; fruit red, 100–195 x 20–50 mm, cylindrical (?smooth); upland rainforest; 1,700–2,100 m. Uganda, D.R.C., Tanzania, and northern Malawi; Nyika is probably its southern limit.

Malawi. Nyika Plateau, Kasyaula Forest, no specimen cited (Dowsett-Lemaire 1985).

Zambia. Nyika Plateau, Kasoma and Chowo Forests, no specimen cited (Dowsett-Lemaire 1985).

Cucumis hirsutus Sond. ❖

Chichewa: mkuwikuwi

Perennial climber to 2.5 m tall; leaves ovate, unlobed or palmately 3- to 5-lobed; flowers white to yellow; fruit round, 15–70 mm diameter, smooth, striped pale and dark green, turning brownish orange when ripe; in woodland, wooded grassland, and grassland; 150–2,500 m. Tropical Africa, from Cameroon to South Africa.

Source. *Flora zambesiaca* 4: 469 (1978).

Malawi. (?Nyika Plateau), Mwenemba, 1903, *McClounie* 160 (K).

Lagenaria abyssinica (Hook.f.) Jeffrey ❖

Climber or trailer to 4 m; flowers white; fruit up to 180 x 230 mm, smooth, green flecked with cream; upland rainforest, riverine forest or wet areas; 1,350–2,750 m. S. Tanzania to D.R.C., Sudan, and Ethiopia. This species is not listed in *Flora zambesiaca* (1978). Generically *Lagenaria* is unmis-takable, but this record is possibly referable to *L. sphaerica* (Sond.) Naud.

Malawi. Nyika Plateau, without locality or collecting details (Mill 1979).

Momordica foetida Schumach. ❖

Stems prostrate or scandent to 7 m, all parts foetid; leaves ovate to triangular, base deeply cordate, flowers pale yellow to orange; fruit ellipsoid, 35–75 mm long, covered in soft spines, bright orange and splitting into 3 valves when ripe; in forest, riverine fringes, woodland, and grassland; 350–2,250 m.

Widespread in tropical Africa.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Juniper Forest, 2000, *Burrows & Burrows* 6943 (MAL, PRE, UZL).

Zambia. Nyika Plateau Valley, ca 4 km S.W. of Rest House (erroneously listed as Malawi in *Flora Zambesiaca*), 1958, *Robson & Angus* 248 (BM, K, LISC, MAL, PRE, SRGH).

Momordica friesiorum (Harms) Jeffrey

Perennial herb with stems prostrate or climbing to 4 m, with tendrils; leaves compound, pedately 3- to 5-foliolate; flowers pale yellow; fruit ellipsoid, ca 60 x 20 mm, longitudinally winged or ridged, orange and splitting into 3 valves when ripe; in upland forest. From Ethiopia to Tanzania and northern Malawi. Known only from the Nyika in Malawi.

Source. *Flora zambesiaca* 4:421 (1978).

Malawi. Nyika Plateau, without precise locality, 1970, *Brummitt* 10883 (K, MAL, SRGH); *Juniperus* forest, *Dowsett-Lemaire* 305 (Dowsett-Lemaire 1985).

Oreosyce africana Hook.f. ❖

Small scandent herb with stems prostrate or scandent to 3 m; leaves ovate to triangular, entire or palmately 3- to 5-lobed; flowers yellow to orange; fruit ellipsoid, 15–27 x 13–21 mm, densely set with protruberances of various lengths, hairy, green or yellow; on margins of forest; 800–2,100 m. South Africa to Angola, Cameroon, and Ethiopia; also on Madagascar.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Trochomeria macrocarpa (Sond.) Hook.f. ❖

Stems prostrate or scandent, to 6 m; leaves broadly ovate, cordate, 5-lobed; flowers olive-green to greenish yellow; fruit 40–65 x 20–30 mm, ellipsoid, beaked, bright orange or red; in wooded grassland and woodland, 600–2,400 m. Throughout most of tropical Africa.

Source. *Flora zambesiaca* 4: 457 (1978).

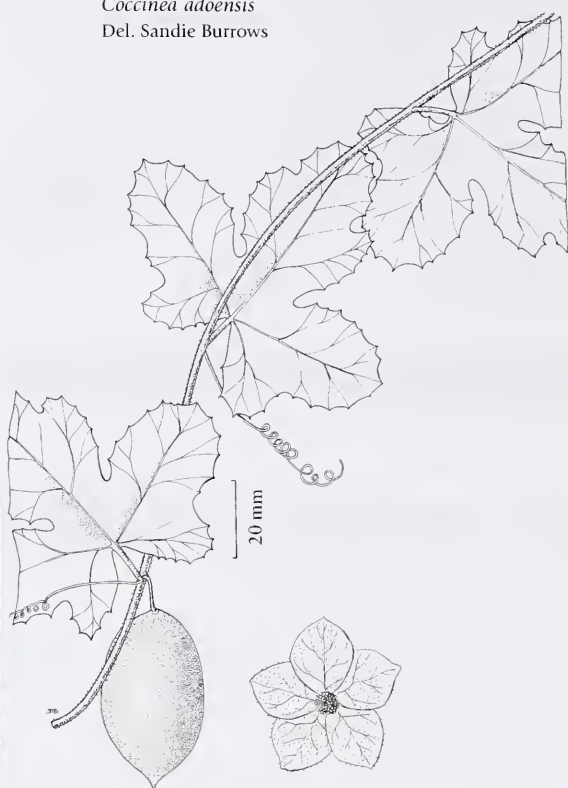
Malawi. Nyika Plateau, Rufiri Stream, 1958, *Robson & Angus* 445 (BM, K, LISC, MAL, PRE, SRGH).

Zehneria scabra (L.f.) Sonder subsp. *scabra* ❖

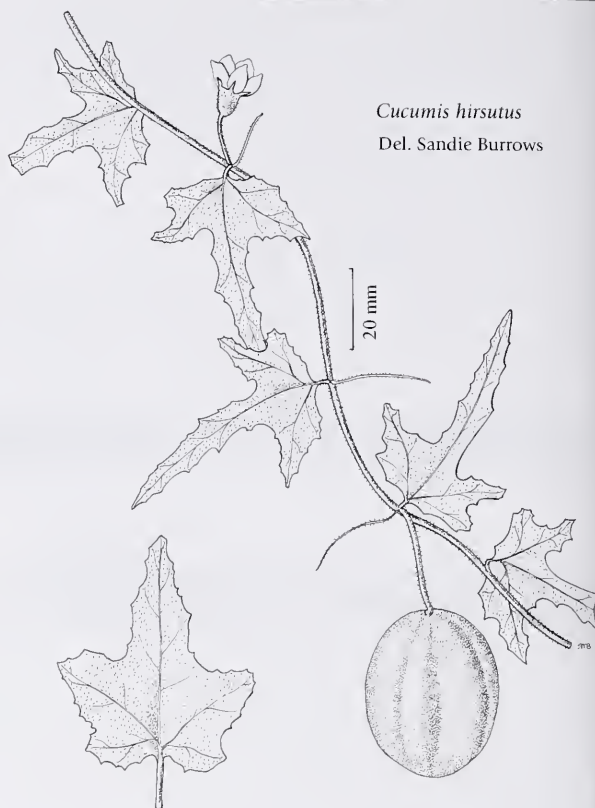
Zehneria oligosperma Jeffrey

Stems prostrate or scandent, to 6 m long; leaves ovate to broadly ovate, unlobed or palmately 3- to 5-lobed, 19–110 x 20–110 mm, deep green, scabrid-punctate above, paler, sometimes hairy below, margins toothed, petiole 7–7 mm; flowers white, turning yellowish, petals 15–35 mm long; fruit 1–10 in axillary clusters, roundish, hairless, bright red, 8–10 mm diameter; in montane forest, swamp forest, riverine forest, and pine planta-

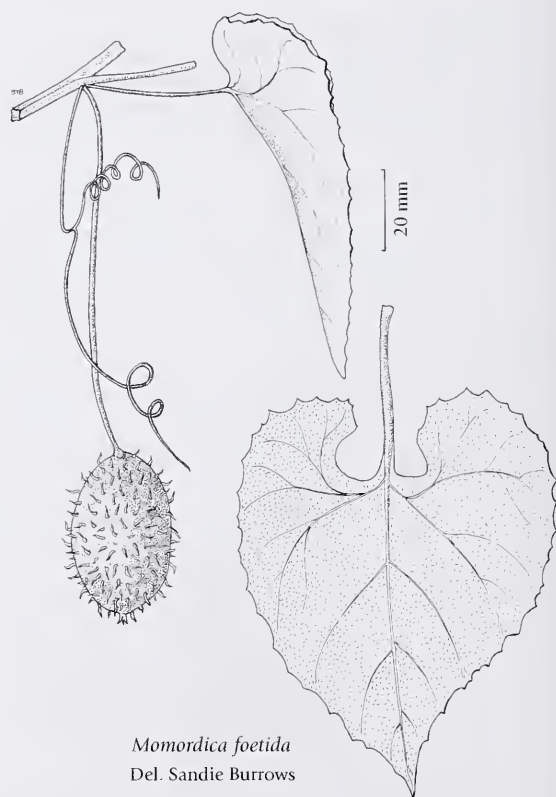
Coccinea adoensis
Del. Sandie Burrows



Cucumis hirsutus
Del. Sandie Burrows

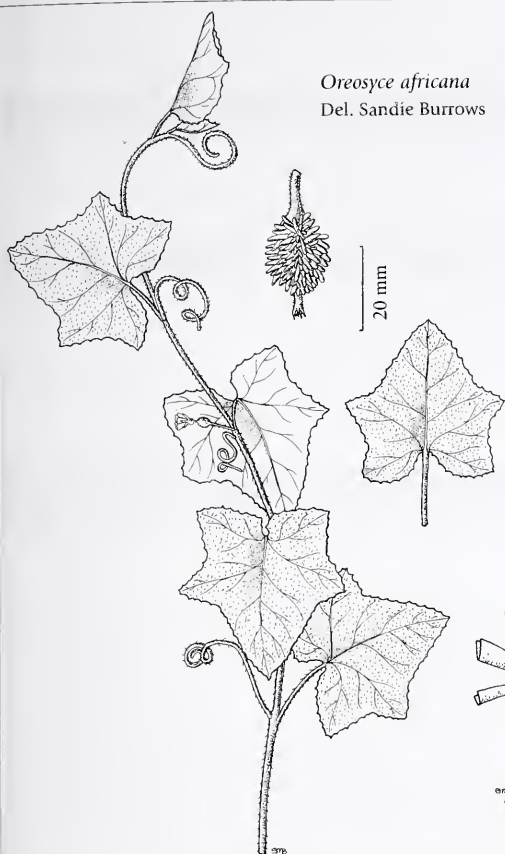


Lagenaria abyssinica
Del. Sandie Burrows



Momordica foetida
Del. Sandie Burrows

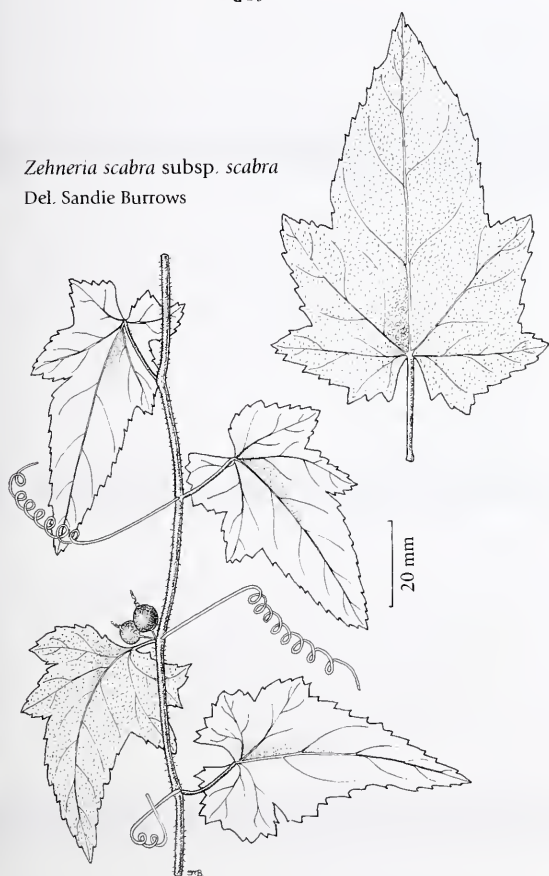
Oreosyce africana
Del. Sandie Burrows



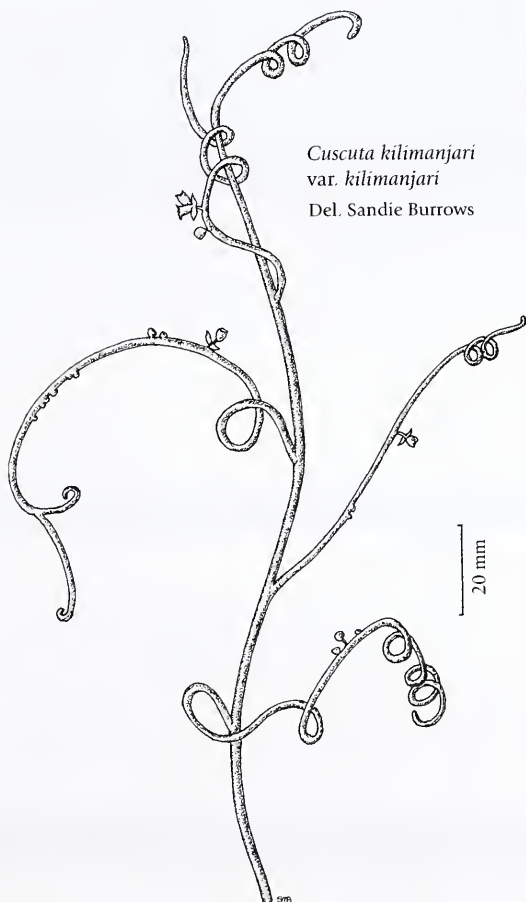
Trochomeria macrocarpa
Del. Sandie Burrows



Zehneria scabra subsp. *scabra*
Del. Sandie Burrows



Cuscuta kilimanjari
var. *kilimanjari*
Del. Sandie Burrows



rians; 600–2,250 m. Throughout tropical Africa, Arabia, India, Java, and the Philippines.

Source. Mill (1979).

Malawi. Nyika National Park, without precise locality, *Dowsett-Lemaire* 773 (*Dowsett-Lemaire* 1985); Juniper Forest, 2000, *Burrows & Burrows* 6944 (PRE).

Zambia. Nyika Plateau, Chowo Forest (*Dowsett-Lemaire* 1985: 332).

Excluded species

Zehneria thwaitesii (Schweinf.) Jeffrey

This specimen, collected by Wakefield at 'Nyika', is stated to be in Malawi, but Wakefield, a missionary in Mombasa from 1862 to ca 1889, never visited Ma-

lawi; there are areas in both Kenya and Tanzania that have, at one time or another, been termed 'Nyika'. This record, therefore, is certainly an error.

Source. *Flora zambesiaca* 4: 483 (1978).

CUSCUTACEAE

Cuscuta kilimanjari Oliv. var. *kilimanjari* ❖

Leafless parasitic plant with masses of string-like yellowish stems to 1.5 m thick; flowers in clusters, 4–6 mm long, 4–6 mm broad, pale cream; parasitic on various hosts, mainly shrubby, often on Acanthaceae, on floors and edges of lowland and upland rainforest. From Ethiopia throughout eastern Africa to South Africa, mostly above 1,000 m. This species is readily recog-

nised by its relatively large flowers.

Source. *Flora zambesiaca* 8(1): 133 (1987).

Malawi. Nyika National Park, Chelinda to Zambia Rest House, 2,200 m, 1967, *Michael & Hinchely* 77 (SRGH).

Zambia. Nyika Plateau, 1966, *Fanshawe* 9748 (SRGH).

DIPSACACEAE

Cephalaria integrifolia Napper ❖

Perennial rhizomatous herb to 1.5 m tall; lower leaves linear-lanceolate, more or less hairless, base tapering; flowers white in dense heads, calyx lobes long, narrow, densely hairy; in coarse grassland; 1,550–1,770 m. Malawi (Nyika Plateau), N. Mozambique (Serra do Gúruè) and S. Tanzania.

Source. Brummitt (1973); *Flora zambesiaca* 7(1): 80 (1983).

Malawi. Nyika National Park, S. slopes of Kawozya, 1972, *Brummitt & Synge* 169 (K); near Nganda Hill, 1962, *Tyrer* 910 (BM).

Zambia. Lundazi (probably Nyika), 1971, *Pawek* 4983 (BM).

Cephalaria pungens Szabo

Perennial erect, rhizomatous herb to 2 m, hairy in lower regions; lower leaves simple, lanceolate or elliptic, on long petioles up to 3 times the length of the leaf blade, upper leaves serrate to lobed, shortly petiolate; flowers white, in dense heads on long axillary or terminal stalks; in upland grassland, streamsides, and swampy sites; 1,200–1,800 m. Throughout tropical

Africa.

Source. *Flora zambesiaca* 7(1): 78 (1983).

Malawi. Nyika Plateau, 1959, *Richards* 10505 (K, SRGH); Nyika National Park, Chosi Viewpoint, 2000, *Chapama* 138 (MAL).

Scabiosa columbaria L. ❖

Scabiosa austro-africana Heine

Erect perennial herb to 1.5 m tall; leaves in pairs, basal ones on long petioles, oblanceolate, toothed, upper leaves sessile, deeply pinnatisect into slender lobes; flowers in dense heads on long stalks, white, the calyx bearing 5 slender hairs to 8 mm long; in upland grassland, mountain slopes, woodland; 1,000–2,000 m; from South Africa through eastern Africa to N. Africa and Europe.

Source. *Flora zambesiaca* 7(1): 84 (1983).

Malawi. Nyika National Park, Lake Kaulime, 1958, *Robson* 323 (BM, K, LISC, PRE, SRGH).

No country given. 1972, *Richards* 22682 (UZL).

DIPTEROCARPACEAE

Monotes africanus A.DC.

Chichewa: mdzadza, mkalakate; *Yao:* makakatuku

Small tree to 8 m tall; leaves simple, concolorous, lateral nerves prominent, in 8–13 pairs; fruit 4-winged, 10–15 mm in diameter; widespread in *Brachystegia* woodland, sometimes forming pure stands. Mozambique to Angola, D.R.C., and Tanzania.

Source. Brummitt (1973).

Malawi. Nyika National Park, S. slopes of Kawozya, 1972, *Brummitt & Synge* 174 (K, MAL, SRGH).

Zambia. Lundazi (Nyika Plateau?), 1952, *White* 2484 (BRLU, FHO, K).

Monotes discolor R.E.Fr. var. *cordatus* (Hutch.) Duvign. ❖

Tree to 10 m tall; leaves simple, discolorous, lateral veins prominent, in 16–19 pairs; fruit 4-winged, 20 mm in diameter; in miombo woodland. Confined to Zambia and Malawi.

Source. *Flora zambesiaca* 1(2): 416 (1961).

Malawi. Nyika National Park, 13 km from Thazima Gate, 2000, *Burrows & Maroyi* 6803 (MAL, PRE, UZL).

Zambia. Nyika National Park, Kaperekezi Road, 2000, *Phiri* 3843 (UZL).

DROSERACEAE

Drosera burkeana Planch.

sundew

Small perennial herb, without a stem; leaves in a compact basal rosette, oblanceolate, densely set with long-stalked sticky glands; flowers mauve, pink or white, in a few-flowered, long-stalked inflorescence; in marshes, swamps, and around springs. From South Africa to D.R.C. and Uganda; also on Madagascar.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Drosera madagascariensis DC. ❖

sundew

Small perennial herb, with a short stem; the leaves spaced along the stem, leaves oblanceolate, on slender petioles, covered in long-stalked sticky glands; flowers pink or purple, in a few-flowered, long-stalked inflorescence; in marshes, swamps, and around springs; South Africa northwards throughout tropical Africa; also on Madagascar.

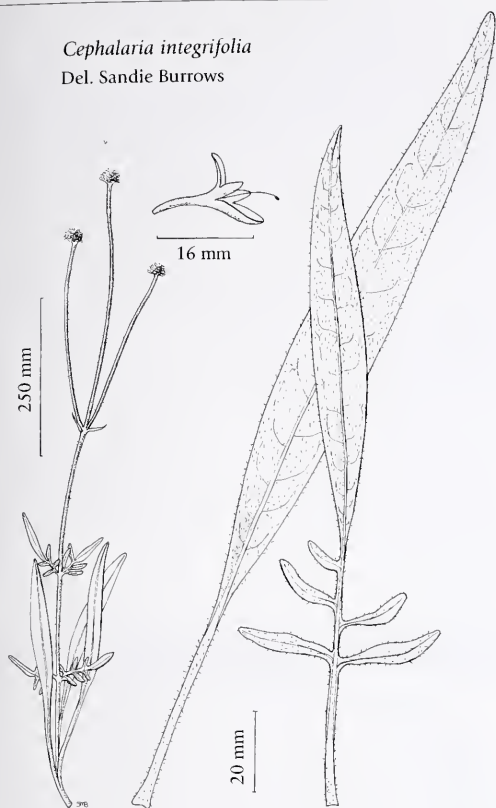
Malawi. Nyika National Park, Lake Kaulime, 2000, *Burrows & Burrows* 6865 (Buffelskloof Herbarium, MAL); without locality or collecting details (Mill 1979).

EBENACEAE

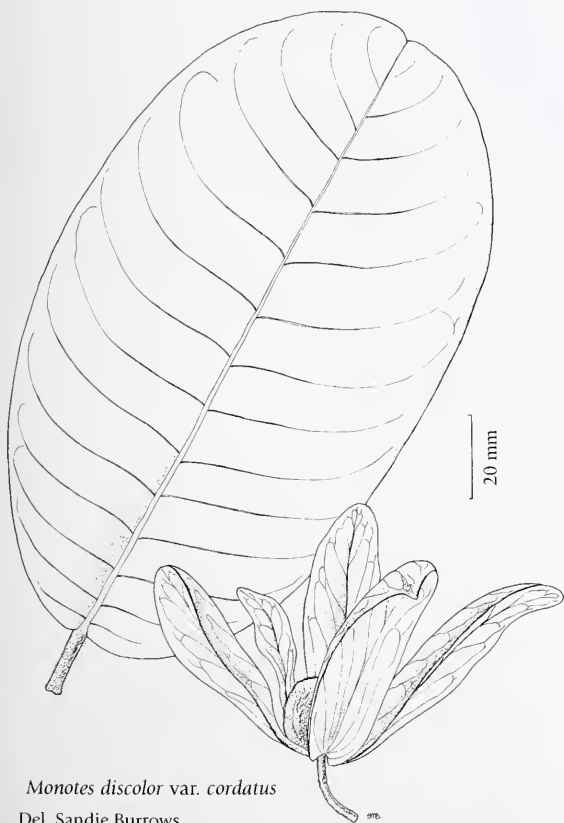
Diospyros abyssinica (Hiern) F.White subsp. *chapmaniorum* F.White

Large evergreen tree 18–30 m tall, bark blackish, rough; leaves alternate, oblanceolate-elliptic, 30–50 x 12–20 mm, shiny above; flowers axillary,

Cephalaria integrifolia
Del. Sandie Burrows

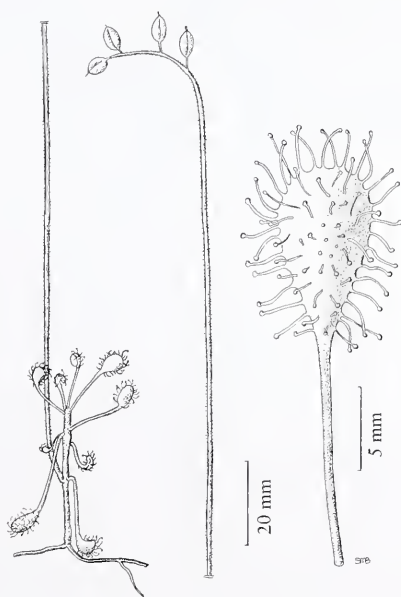


Scabiosa columbaria
Del. Sandie Burrows

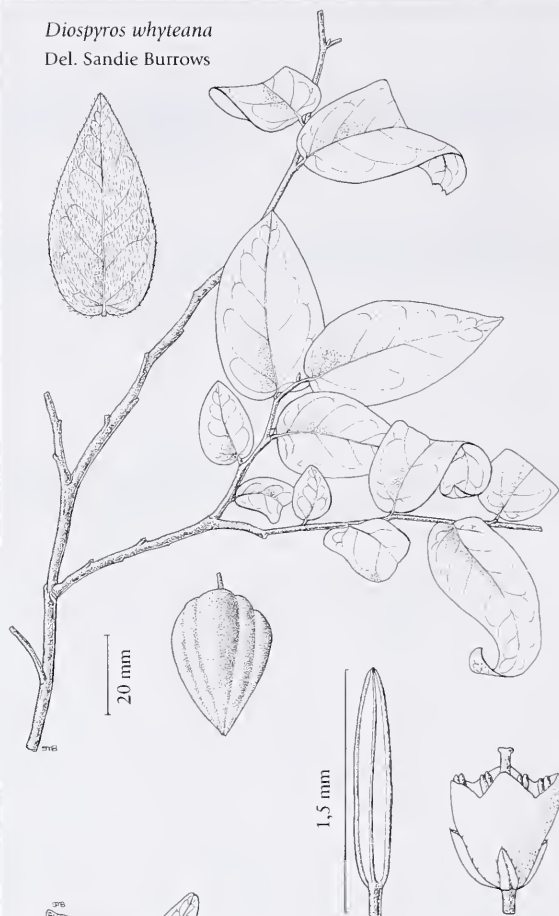


Monotes discolor var. *cordatus*
Del. Sandie Burrows

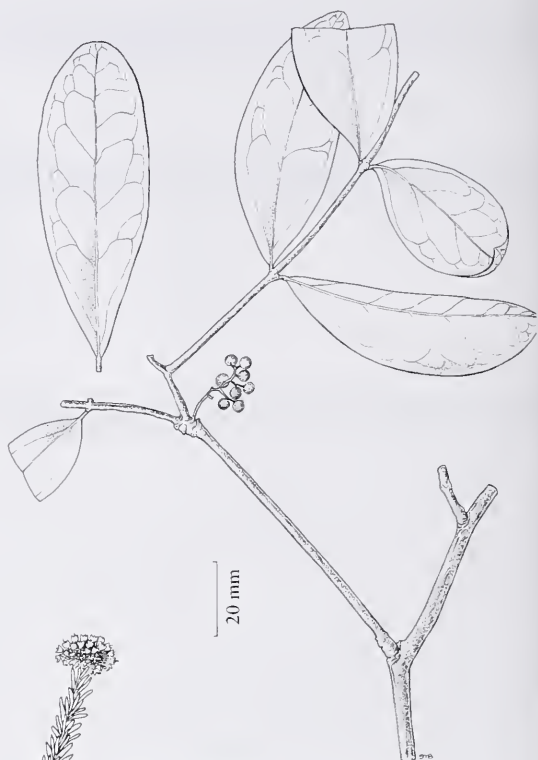
Drosera madagascariensis
Del. Sandie Burrows



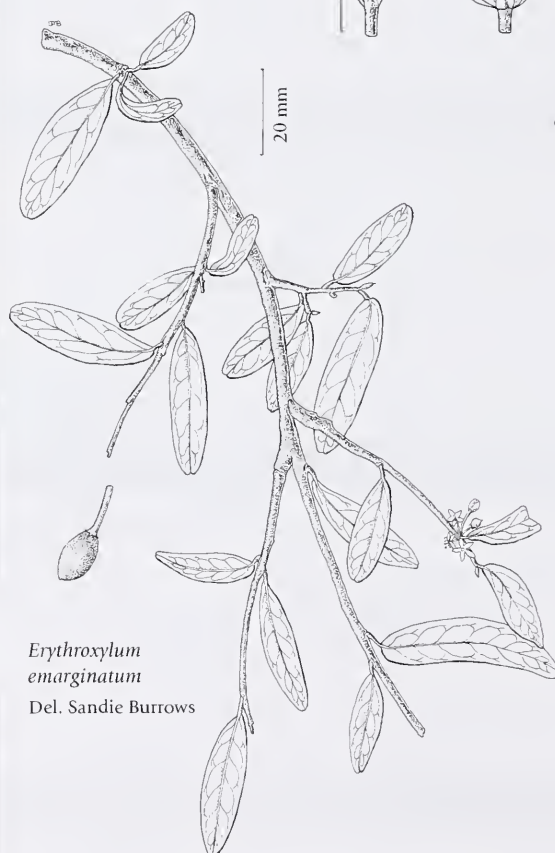
Diospyros whyteana
Del. Sandie Burrows



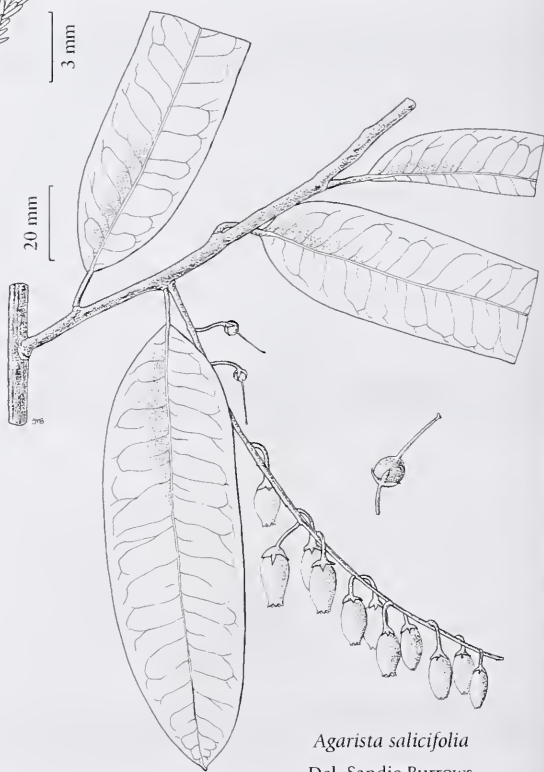
Euclea racemosa subsp. *schimperi*
Del. Sandie Burrows



Erica microdonta
Del. Sandie Burrows



Erythroxylum
emarginatum
Del. Sandie Burrows



Agarista salicifolia
Del. Sandie Burrows

smallish, creamy or white; fruit ellipsoid, shiny, to 14 x 9 mm, calyx forming a shallow cup; in evergreen montane forest, usually a canopy species; 1,400–2,220 m. A *Flora zambesiaca* endemic, known only from Mozambique, Malawi, and Zambia (Nyika).

Source. *Flora zambesiaca* 7(1): 264 (1983); White *et al.* (2001: 225).

Malawi. Nyika National Park, Kasyaula Forest, without collecting details (Dowsett-Lemaire 1985: 314).

Zambia. Nyika Plateau, headwaters of Chire River, 1952, *White 2758* (BM, FHO).

Diospyros whyteana (Hiern) F.White ❖

Royena whyteana Hiern; *Royena lucida* L.

Evergreen shrub or small tree to 13 m, bark smoothish; leaves alternate, lanceolate to oblong-elliptic, base rounded, shiny, but with scattered hairs, particularly along the margins; flowers single, axillary, small, white; fruit a red or maroon berry completely enclosed by the papery brown calyx; in forests, forest margins, riverine forest, and bush clumps. From South Africa to Zambia and Tanzania.

Source. *Flora zambesiaca* 7(1): 269 (1983).

Malawi. Nyika National Park, Jalawe View Point, 2000, *Thera 3080* (MAL); Zovochipolo Forest, 2000, *Burrows & Burrows 6902* (PRE).

Zambia. Nyika Plateau, 9 km S.W. of Rest House, 1958, *Robson 355* (BM, FHO, K, SRGH).

ERICACEAE

Agarista salicifolia (Comm. ex Lam.) G.Don ❖

Agauria salicifolia (Comm. ex Lam.) Hook.f. ex Oliv.

Tumbuka: mzogozo; *Sukwa:* mkorwe

Evergreen tree to 12 m tall; leaves alternate, simple, narrowly lanceolate to oblong-elliptic, 20–120 x 8–35 mm, more or less hairless, glossy above; flowers in axillary racemes, white, *Erica*-like; fruit a small brown capsule; in riparian forest and on the margins of evergreen forest, occasionally scattered in grassland, 1,375–2,300 m. On high ground in Malawi and Zambia and northwards throughout tropical Africa; also on Madagascar and the Mascarene islands. On the Nyika, *Agarista* is the food-plant of the endemic butterfly *Charaxes dowsetti* (White *et al.* 2001).

Source. *Flora zambesiaca* 7(1): 158 (1983).

Malawi. Nyika Plateau, Lake Kaulime, 2,200 m, 1958, *Robson 278* (BM, K, LISC, SRGH); near Juniper Forest, 1965, *Lawton 1295* (FHO); Nchenachena Stream at edge of Nyika Plateau, 1960, *Adlard 320* (FHO).

Erica benguelensis (Welw. ex Engl.) E.G.H.Oliv. var.

albescens (R.Ross) E.G.H.Oliv.

Philippia benguelensis (Welw. ex Engl.) Britten; *Philippia milanjiensis* Britten & Rendle

As for var. *benguelensis*, but the leaves more densely hairy on both surfaces and flowers white. Mozambique, Malawi, Zambia, and S.W. Tanzania. It seems suspicious that both this and the next variety occur together in the Chowo area of the Zambian Nyika.

Source. *Flora zambesiaca* 7(1): 180 (1983); White *et al.* (2001).

Malawi. Nyika Plateau, Kasaramba, 2,300 m, 1946, *Brass 17251* (BM, K, PRE, SRGH).

Zambia. Nyika Plateau, Chowo Rock, 1974, *Pawek 7942* (SRGH).

Erica benguelensis (Welw. ex Engl.) E.G.H.Oliv. var. **benguelensis**

Philippia benguelensis (Welw. ex Engl.) Britten

Shrub or tree 1–6 m tall; leaves small, in whorls of 4, to 4.5 x 0.7 mm, thinly hairy to hairless; flowers in clusters of 4–12 at branch tips, cup-shaped, green, sometimes tinged pink; in open places within and on the edges of *Brachystegia* woodland and montane forest, in secondary scrub, and scattered or forming thickets in montane grassland. From Zimbabwe to Angola, Uganda, and Tanzania.

Source. *Flora zambesiaca* 7(1): 179 (1983).

Malawi. Nyika Plateau, 2,300 m, 1946, *Brass 17251* (BM, K, PRE, SRGH);

Euclea racemosa Murr. subsp. **schimperi** (A.DC.) F.White ❖

Euclea schimperi (A.DC.) Dandy

Evergreen shrub or small tree; leaves alternate to opposite, 4 times as long as broad, margins slightly or not wavy, surface dark glossy green; flowers in small clusters, creamy; fruit a small hard berry, 6–8 mm in diameter; in lowland or mid-altitude forest, riverine forest, and termitaria in miombo woodland; 90–2,220 m. Eastern Africa from Yemen to South Africa.

Source. Brummitt (1973).

Malawi. Nyika National Park, by lower Mondwe River, 1972, *Brummitt & Syngé 228* (FHO, PRE).

Euclea sp. cf. **divinorum** Hiern

Tree to 18 m tall, usually less, mostly near edges and in light shade of montane forest and *Juniperus* forest to 2,220 m (Dowsett-Lemaire in White *et al.* (2001: 229); Friis (1992: 219)). True *E. divinorum* is a species of hot, low-altitude deciduous woodland, a habitat which it occupies in Lengwe in southern Malawi (White 1983: 299 4) and it is almost impossible for one taxon to span this full range of environmental extremes. We therefore regard the Nyika material as belonging to a distinct taxon, perhaps allied to *E. divinorum*, or to the similar and very variable *E. crispata* that occurs in certain forest types and is recorded from the Mafinga Mountains to the north.

Malawi. Nyika Plateau, without precise locality or linked collection (Dowsett-Lemaire 1985, White *et al.* 2001).

Chelinda Bridge, 2000, *Kurzweil 2014* (NBG).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest area), 2,150 m, 1952, *White 2740* (BM, FHO, K).

Erica kiwuensis (Engl.) F.White

Blaeria kingaensis Engl.; *Blaeria kiwuensis* Engl.

Shrub to 1 m tall; leaves in whorls of 3, very small, to 5 mm long, 1 mm broad; flowers pale pink to purple, very small, cup-shaped; in montane grassland or scrub, often by the side of streams, and scattered amongst rocks, 1,600–2,550 m. Zimbabwe to Tanzania.

Source. *Flora zambesiaca* 7(1): 171 (1983); White *et al.* (2001: 233).

Malawi. Nyika National Park, Chelinda, 2,150 m, 1963, *Chapman 1995* (BM, K, SRGH); Nganda Hill, 2000, *Burrows & Burrows 6845* (K, MAL, NBG, UZL).

Erica mannii (Hook.f.) Beentje subsp. **pallidiflora** (Engl.)

E.G.H.Oliv.

Philippia ubebensis Engl.; *Philippia mannii* subsp. *pallidiflora* (Engl.) Ross

Shrub or small tree 1–10 m tall; leaves in whorls of 3, to 6 x 1.25 mm; flowers in clusters of 3–6 at branch tips, white to pale green, tinged red; in *Brachystegia*–*Uapaca* woodland, montane scrub, and grassland, 1,000–2,400 m. Zimbabwe to Angola, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 7(1): 178 (1983).

Malawi. Nyika Plateau, 2,400 m, 1958, *Robson 425* (BM, K, LISC, PRE, SRGH); Mpopoti Peak, 2000, *Willis & Luhanga 88* (PRE).

Erica microdonta (C.H.Wright) E.G.H.Oliv. ❖

Ericinella microdonta (C.H.Wright) Alm & T.C.E.Fries; *Ericinella brassii* Brenan

interere (Mulanje district)
Evergreen shrub 0.75–3 m tall; leaves in whorls of 4, dense, to 5 x 1 mm; flowers in clusters of 4–16 at branch tips, white; in montane grassland. Mozambique, Malawi, and S.W. Tanzania.

Source. *Flora zambesiaca* 7(1): 174 (1983); Oliver (1994: 124).

Malawi. S. Nyika Mountains, 1,200–2,100 m, 1896, *Whyte s.n.* (K).

Erica slivatica (Engl.) Beentje

Blaeria filago Alm & T.C.E.Fries

Shrublet with several erect stems to 0.5 m tall; leaves fine, ericoid; flowers

in clusters at branch tips, purplish pink; in damp montane grassland on margins of marshes, 2,350 m. Kenya, Tanzania, and Malawi (Nyika).

Source. *Flora zambesiaca* 7(1): 173 (1983).

Malawi. Nyika Plateau, 2,350 m, 1946, *Brass 17340a* (SRGH); Zovochipolo, 2000, *Burrows & Burrows 6900* (K, MAL, NBG, UZL).

Excluded species

Vaccinium sp. (tree)

We have no details of this collection, nor have we seen any material from the Nyika region. In addition, *Vaccinium* is not recorded from N. of Mt. Mulanje in Malawi (Ross 1983: 161, White *et al.* 2001: 236) and we have

therefore excluded it until such time as its occurrence can be confirmed for the Nyika.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

ERYTHROXYLACEAE

Erythroxylum emarginatum Thonn. ✧

Chicheva: kapfupa, chikango, mungamo; *Yao:* mlungamo, mpweche
Shrub or small evergreen tree 1–9 m tall; leaves simple, alternate, oblanceolate, obovate or rhombic, entire, hairless, apex notched; flowers axillary, single, white or pink; fruit a small bright red berry; on rocky out-

crops, in scrub, forest margins, evergreen forest understorey or riverine forest; 600–2,150 m. South Africa to Tanzania and W. Africa.

Malawi. Nyika National Park, Chisanga Falls, *Dowsett-Lemaire 269* (White *et al.* 2001: 238).

ESCALLONIACEAE

Choristylis rhamnoides Harv. ✧

Choristylis ulugurensis Mildbr.

Straggling or scandent shrub or small tree with numerous slender trailing stems; leaves simple, alternate, more or less ovate or elliptic, serrate, fairly shiny above; flowers cream, in axillary clusters; fruit a small dehiscent cap-

sule; in evergreen forest along streams or on forest margins, or wet areas on rocky hillsides; 900–2,300 m. South Africa to D.R.C. and Uganda.

Source. *Flora zambesiaca* 7(1): 1 (1983).

Malawi. Nyika Plateau, without precise locality, 1964, *Robinson 6244* (K, SRGH).

EUPHORBIACEAE

Acalypha chirindica S.Moore

Chicheva: mpalachulu

Deciduous, much-branched, often straggling shrub or small tree to 5 m, branches hairy, arching; petiole 2–20 mm, leaves ovate-lanceolate to rhombic-lanceolate, thinly hairy, margins finely toothed; female and male flowers on separate plants; in understorey of evergreen forest, in closed miombo woodland, gully and riverine forest; 500–1,675 m. From Zimbabwe to D.R.C. and Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999); Thazima Camp, 2000, *Chapama 173* (MAL).

Acalypha fimbriata Schum. & Thonn.

Erect, slender, unbranched annual herb to 1.3 m tall; petioles to 70 mm, leaves elliptic-ovate to ovate-lanceolate, 3- to 5-nerved from the base, sparsely hairy; female bracts with falcate-lanceolate hairy teeth; in high-rainfall miombo woodland, moist grassland, dambos, often weedy; 200–1,370 m. Widespread in Africa, from Senegal and Sudan to South Africa.

Malawi. Nyika National Park, without precise locality or collecting details (Patel 1999).

Acalypha ornata A.Rich.

Acalypha moggii Compton

Chicheva: mpalachulu; *Yao:* chipasulu

Large, much-branched herb, vine, large shrub or small tree to 5 m, stems hairy, often purplish; petioles 20–150 mm long, leaves ovate to ovate-elliptic, tips with a slender point, margins serrate, more or less hairy, 5- to 7-nerved from the base; from *Acacia* and mopane woodland to submontane riverine and gully forest; 20–1,700 m. Through much of tropical Africa, from Nigeria and Eritrea to South Africa.

Malawi. Nyika National Park, without precise locality or collecting details (Patel 1999).

Acalypha polymorpha Müll.Arg. emend. Hutch.

Acalypha shirensis Hutch. ex Pax

Erect many-stemmed perennial hairy herb from a woody rootstock; petiole 1–10 mm, leaves very variable, from round to elliptic or oblanceolate, margins serrate, surfaces more or less hairless, 3- to 5-nerved from the base; male and female flowers separate and different; in miombo woodland and submontane grassland, particularly evident after fires; 350–2,470 m. From Zimbabwe to Uganda and Kenya.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Acalypha psilostachya Hochst. ex A.Rich. var. **psilostachya**

Erect or scandent woody subshrub to 3 m tall, stems hairy; petioles slender, to 110 mm long, leaves ovate to ovate-lanceolate, tip caudate-acuminate, margins finely toothed, 5- to 9-nerved from the base, hairy throughout; in understorey and margins of submontane evergreen forest, in medium to high-altitude riverine forest, also in swamp forest (*mushitu*), and submontane grassland; 900–3,050 m. N. Mozambique, Malawi and Zambia to Angola, Sudan, and Ethiopia.

Source. *Flora zambesiaca* 9(4): 203 (1996).

Malawi. Nyika National Park, Zovochipolo Forest, 2000, *Burrows & Burrows 6899* (MAL, PRE, SRGH, UZL).

Zambia. Nyika Plateau, c. 3 km S.W. of Rest House, 1958, *Robson & Angus 272* (BM, FHO, K, LISC, PRE, SRGH); western part of Park, 2000, *Phiri 3969* (UZL).

Acalypha psilostachya Hochst. ex A.Rich. var. **glandulosa** Hutch.

As for var. *psilostachya*, but bearing stalked or sessile glands on the branches, flowering stalks and female flowering bracts. It is somewhat doubtful whether this is a sound and constant character upon which to base a variety.

Source. *Flora zambesiaca* 9(4): 204 (1996).

Malawi. Nyika Plateau, 1896, *Whyte* s.n. (K, holo.).

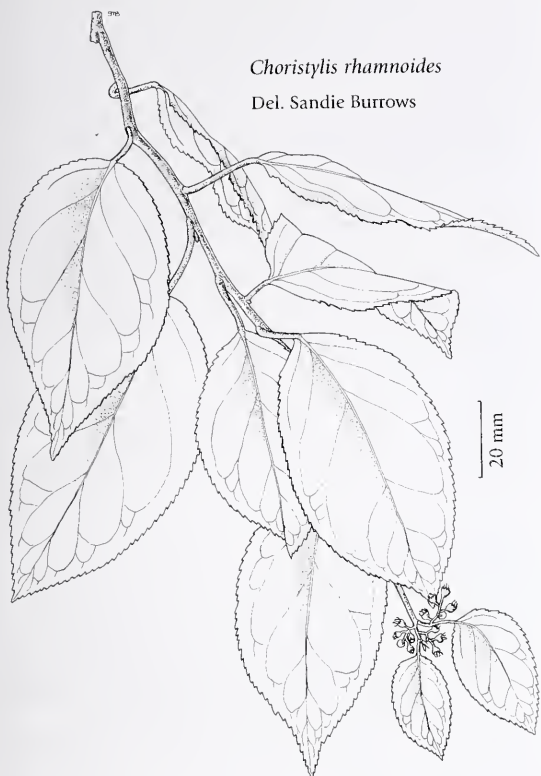
Acalypha villicaulis Hochst. ex A.Rich. ✧

Acalypha senensis Klotzsch; *Acalypha petiolaris* Hochst. ex Krauss

Chicheva: chigaga, nyalitsa, kamchidada; *Yao:* nyalisi, chinyanya
Perennial herb or subshrub to 2 m tall, with numerous erect stems from a woody rootstock; petioles 5–60 mm, leaves ovate to oblong or linear-lanceolate, 7-nerved from the base, hairy on both surfaces, margins serrate; in various types of woodland, in grassland, dambos; 30–2,135 m. Widespread in tropical Africa from Senegal and Ethiopia to South Africa. Used medicinally to cure diarrhoea and kill intestinal worms.

Malawi. Nyika National Park, without precise locality or collecting details (Patel 1999); Livingstonia Escarpment, 1973, *Pawek 7686* (K, MAL, MO, SRGH, UC).

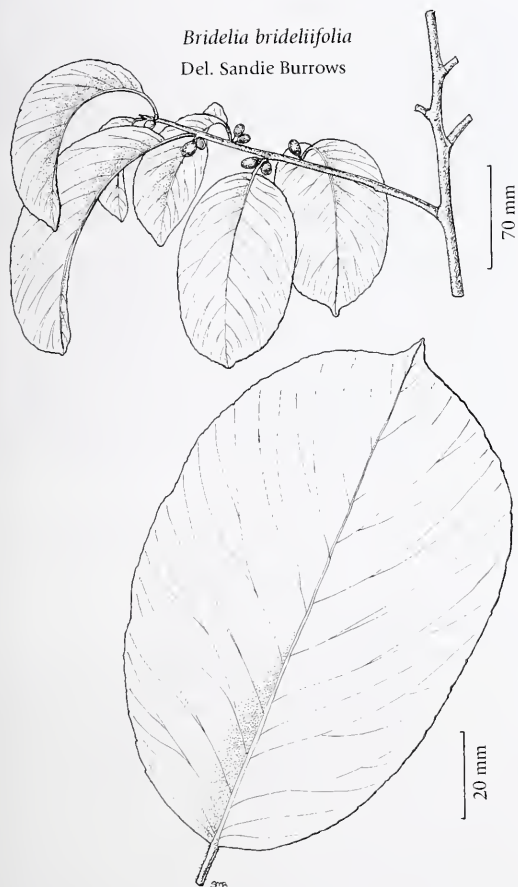
Choristylis rhamnoides
Del. Sandie Burrows



Acalypha villicaulis
Del. Sandie Burrows



Bridelia brideliifolia
Del. Sandie Burrows



Clutia abyssinica var. *abyssinica*
Del. Pat Halliday

Bridelia brideliifolia (Pax) Fedde ❖

Deciduous tree to 30 m, developing stilt roots or buttresses with age, trunk spiny, branches more or less flattened; leaves alternate, elliptic-ovate to elliptic-oblong, 40–170 × 20–110 mm, dark green above, paler below; fruit ellipsoid, to 12 × 7 mm, 1-seeded, red or purple; in or on edge of montane forest; 1,600–2,000 m. Malawi, D.R.C., Rwanda, Burundi, Sudan, Uganda, and Tanzania.

Malawi. Nyika National Park, road from Rest House to Thazima Gate, 2000, *Burrows & Maroyi 6837* (Buffelskloof Herb.); *Lusero, Chapman 2003* (White *et al.* 2001: 244).

Bridelia cathartica Bertol.f.

Chichewa: ntundi, mbalambala; *Timbuka:* puzelamanzi; *Yao:* ntundi, ntundi, mbalambala

Variable deciduous shrub or small tree often with arching branches, trunk spineless; leaves 10–120 × 5–70 mm, ovate-elliptic, often slightly blue-green above, hairless; fruit to 11 × 10 mm, 2-seeded, purple to blackish when ripe; in various types of woodland and scrub. Widespread in Africa. A number of subspecies, varieties, and forms are recognized within this species; it is not known to which this collection belongs.

Source. Brummitt (1973).

Malawi. Nyika National Park, Sawi Valley, 1972, *Synge 415* (K, MAL).

Clusia abyssinica Jaub. & Spach var. **abyssinica** ❖

lightning bush; *Timbuka:* milumila; *Yao:* chiuta

Erect lax shrub to 6 m tall, stems and leaves glabrous to thinly hairy, but soon more or less hairless; petioles 10–35 mm long, leaves 20–160 mm long, ovate to elliptic-lanceolate, base tapering to rounded; in submontane evergreen forest margins and clearings, understorey tree of high-rainfall plateau *Brachystegia* woodland, and riverine forests; 300–2,300 m. South Africa to Angola, Sudan, and Somalia.

Source. *Flora zambesiaca* 9(4): 125 (1996).

Malawi. Nyika National Park, 5 km N.E. of Nganda, 1972, *Synge 291* (K, MAL, SRGH, FHO); Juniper Forest Reserve, 2000, *Chikuni 504* (MAL).

Zambia. Lundazi, Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White 2552* (FHO, K).

Clusia abyssinica Jaub. & Spach var. **pedicellaris** (Pax) Pax

As for var. *abyssinica*, but with the stems and leaves evenly hairy; on steep rocky slopes and ridge tops, in grassland and savanna, in miombo woodland, on margins of evergreen forest, in rainforest regrowth, and in montane forest; 720–2,300 m. Zimbabwe to Ethiopia.

Source. *Flora zambesiaca* 9(4): 127 (1996).

Malawi. Nyika Plateau, 1968, *Simon, Williamson & Ball 1805* (K, LISC, MAL, PRE, SRGH).

Zambia. Nyika Plateau, 1977, *Pawek 12913* (K, MO).

Clusia paxii Knauf ex Pax

Clusia gracilis Hutch.; *Clusia phyllanthoides* S.Moore

Much-branched shrub to 2.5 m tall, thinly hairy; petioles 0.5–3 mm, leaves 5–30 × 3–15 mm, obovate to elliptic-lanceolate, tip rounded or blunt, thinly hairy or not on both surfaces; in submontane evergreen forest margins, kloof and gully forest, and submontane grassland with ericoid scrub; 1,525–2,400 m. Zimbabwe to D.R.C. and Tanzania. *Radcliffe-Smith, Pope & Goyder 5910* (1989) on the Gambian side of the Nyika Plateau, has leaves up to 70 mm long and only 2 glands at the base of the male petals. It therefore seems to be intermediate between *C. paxii* and *C. robusta* (*Flora zambesiaca* 9(4): 130 (1996)).

Source. *Flora zambesiaca* 9(4): 129 (1996); *Kew Bulletin* 47: 114 (1992).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Zambia. Nyika Plateau, 1958, *Robson & Angus 258* (BM, K, LISC, SRGH).

Clusia whytei Hutch. var. **whytei**

Chichewa: msawasa; *Yao:* msisimanga

Perennial shrublet to 1.2 m tall, hairy at first, hairless with age; petiole 2–5 mm, leaves roundish to ovate-lanceolate, 20–55 mm long, base rounded, tip blunt to tapering; in upland grassland and high-rainfall *Brachystegia* woodland; 1,675–2,375. Malawi, Zambia, and S. Tanzania.

Malawi. Nyika National Park, Mpopoti Hill, 2000, *Salubeni & Mwanyambo 6781* (MAL).

Zambia. Nyika, without precise locality, 1962, *Fanshawe 7390* (K, NDO).

No country given. 1958, *Robson 251* (UZL).

Croton macrostachyus Hochst. ex Del. ❖

Chichewa: mbwani; *Timbuka:* muworo, mudulamono; *Yao:* nakawalika, mrutu, chivalika

Tree to 25 m, briefly deciduous, crown spreading, bark smoothish, pale, greyish; petioles 30–120 mm long, leaves ovate, 60–180 × 40–140 mm, base more or less cordate, tip acuminate, margins shallowly toothed; fruit 3- to 4-lobed, to 10 × 15 mm, set with hairs and scales; in riverine and evergreen forest, high-rainfall miombo woodland, and wooded grassland; 825–2,100 m. Widespread in Africa from Zimbabwe northwards; also on Madagascar.

Source. *Flora zambesiaca* 9(4): 287 (1996).

Malawi. Nyika Plateau, Kasyaula, and Zovochipolo Forests (Dowsett-Lemaire 1985: 314).

Zambia. Nyika Plateau, Chowo Forest, 1975, *Pawek 10036* (K, MAL, MO, SRGH, UC).

Drypetes gerrardii Hutch. ❖

forest ironplum; *Sukwa:* mutaga

Small to large evergreen tree 3–30 m, bole fluted to buttressed, bark smooth to flaking; leaves ovate to rhombic-elliptic, 20 mm–1.74 m long, base asymmetric, tip tapering, margin finely toothed; fruit roundish, more or less bilobed, finely hairy; a subcanopy tree in evergreen forest; 780–2,000 m. Eastern Africa from South Africa to Kenya. Four varieties are recognized; the Nyika material probably belongs to var. *gerrardii*.

Malawi. Nyika Plateau, Mwenembwe-Kasaramba Forests (Dowsett-Lemaire 1985: 352–353).

Erythrococca menyharthii (Pax) Prain ❖

northern twin red-berry

Straggly shrub to 3 m tall, bark pale grey, smooth, flaking; leaves 20–100 × 10–60 mm, ovate-lanceolate to elliptic; base tapering, margin widely and irregularly serrate with yellowish green hairs on both surfaces; fruit small, 3-lobed, hairy; in woodland, thicket, and forest margins; 300–1,500 m. South Africa to Angola, Zambia, Tanzania, and Kenya.

Source. *Flora zambesiaca* 9(4): 168 (1996).

Zambia. Nyika, without precise locality, 1962, *Fanshawe 7340* (K, NDO).

Erythrococca trichogyne (Müll.Arg.) Prain var. **psilogyne** Radcl.-Sm.

Erect much-branched shrub to 6 m, bark light brown, rough; leaves 10–110 × 5–55 mm, elliptic to elliptic-ovate, coarsely serrate to subentire, more or less hairless above, finely hairy below; fruit 2-lobed, hairy or not; in the understorey and on margins of montane evergreen rainforest; 1,770–2,200 m. A near-endemic, also found in the Misuku Hills of northern Malawi. Var. *trichogyne* occurs from Ethiopia to South Africa, but not in northern Malawi.

Source. *Flora zambesiaca* 9(4): 171 (1996).

Malawi. Nyika Plateau, 1974, *Pawek 7878* (K, MAL, MO, SRGH, UC).

Zambia. Nyika Plateau, Chowo Forest, 1982, *Dowsett-Lemaire 265* (K); without locality, 1962, *Fanshawe 7340* (FHO).

Euphorbia ampliphylla Pax

Euphorbia obovalifolia sensu N.E.Br., non A.Rich.

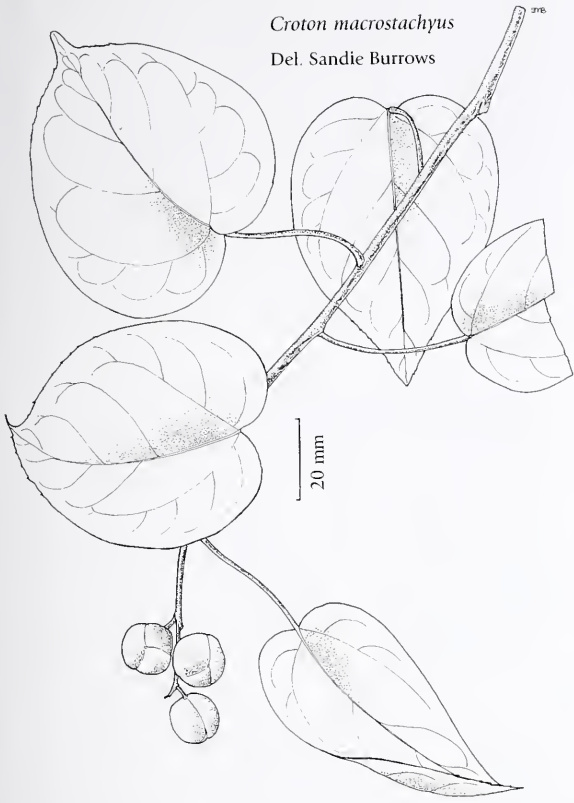
Tall tree succulent 10–30 m tall, stem unbranched in the lower two-thirds, branches ascending and rebranching to form a spreading crown, branchlets 3-angled, constricted into oblong segments, spines 1–3 mm long; leaves present only on young growth; in Afromontane rainforest; 2,000–2,165 m. N. Malawi to Ethiopia; in the *Flora zambesiaca* area confined to Nyika and Matipa Forest.

Source. Puff (1991: 60–64); Hargreaves (1991: 68–71); *Flora zambesiaca* 9(5): 396 (2001).

Malawi. Nyika Plateau, Nkhonjera Hill, 1985, *Dowsett-Lemaire 132* (BR).

Zambia. Nyika Plateau, Chowo Forest, 1975, *Pawek 10031* (K, MAL, MO, SRGH).

Croton macrostachyus
Del. Sandie Burrows

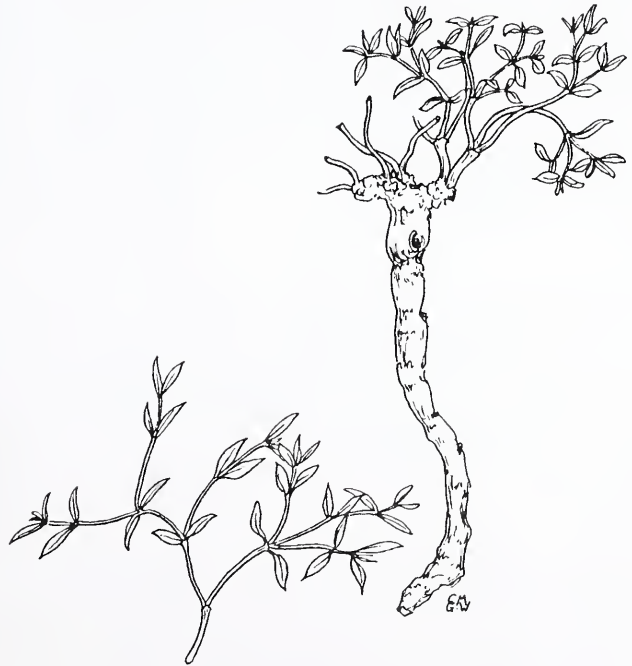


Drypetes gerrardii
Del. Sandie Burrows

Erythrococca menyharthii
Del. Christine Grey-Wilson



Euphorbia zambesiana var. *zambesiana*
Del. Christine Grey-Wilson



Euphorbia cyparissioides Pax*Euphorbia dejecta* N.E.Br.

Glabrous perennial herb, with a woody rootstock producing densely-tufted simple or sparsely-branched annual stems; leaves densely crowded towards ends of stems, linear-lanceolate, to 30 x 5 mm, apex rounded then apiculate; in grassland and open woodland on well-drained soils, evident after fires; 1,000–2,280 m. Widespread in tropical Africa.

Malawi. Nyika National Park, 13 km from Chelinda Camp on road to main gate, 1970, *Brummitt 11870* (K, SRGH).

No country given. Nyika Plateau, 1958, *Robson 205* (UZL).

Euphorbia daviesii E.A.Bruce

Glabrous perennial herb, rootstock herb with numerous annual unbranched erect stems; leaves oblanceolate, to 25 x 10 mm, apex acute to apiculate; in montane grassland, in dry sandy soils; 2,215–2,350 m. N. Malawi and S. Tanzania.

Source. Brummitt (1973); *Flora zambesiaca* 9(5): 373 (2001).

Malawi. Nyika Plateau, 4 km W.N.W. of Muzengapakweru, 1972, *Synge 310* (K, MAL); Kasaramba, 1967, *Richards 22548* (K, SRGH).

Euphorbia depauperata Hochst. ex A.Rich. var. *depauperata*

Euphorbia depauperata var. *pubiflora* N.E.Br. [Syntypes: Nyika Plateau, 6.1896, *Whyte* s.n. (K); 7.1896, *Whyte* s.n. (K)].

Perennial pyrophytic herb from a woody rootstock, producing numerous annual erect or decumbent stems to 0.6 m long, apices of the sterile shoots hairless; leaves linear-lanceolate to broadly obovate, 50–80 x 10–30 mm, hairless, margin more or less revolute; in montane grassland on rocky soil or forest clearings; 600–2,200 m. Widespread in tropical Africa.

Source. Brummitt (1973); *Flora zambesiaca* 9(5): 374 (2001).

Malawi. Nyika Plateau, 4 km W.N.W. of Muzengapakweru, 1972, *Synge 321* (K, MAL, SRGH); track to Kasenga Chipopoma Waterfall, 1967, *Richards 22521* (K).

Euphorbia depauperata Hochst. ex A.Rich. var. *trachycarpa* (Pax) S.Carter

As for var. *depauperata*, but with the apices of the sterile shoots hairy; in montane grassland. Also in S. Tanzania, but most common in northern Malawi.

Source. *Flora zambesiaca* 9(5): 375 (2001).

Malawi. Livingstonia, Nyamkhowa, 1978, *Pawek 13854* (K, MAL, MO, PRE, SRGH).

Zambia. Nyika Plateau, 1955, *Lees 84* (K, NDO).

Euphorbia matabelensis Pax

Woody shrub or small tree to 3 m, bark smoothish, peeling, branches more or less trichotomous, branchlets often spine-tipped; leaves alternate or in clusters, oblanceolate to obovate, to 55 x 23 mm, apex rounded; in deciduous woodland, on sandy or rocky soils, on rocky hillsides; 450–1,525 m. Zimbabwe to Angola and Kenya.

Source. Brummitt (1973).

Malawi. Nyika National Park, Chipome Valley, 1972, *Synge 272* (K, MAL, SRGH).

Euphorbia schimperiana Scheele var. *schimperiana*

Erect, much-branched annual or short-lived perennial herb to 2 m, completely glabrous; leaves ovate-lanceolate to lanceolate, to 150 x 20 mm, sessile, glabrous or sparsely hairy on lower surface; in upland grassland, forest margins and clearings; 760–2,180 m. A common weed throughout tropical Africa.

Source. *Flora zambesiaca* 9(5): 368 (2001).

Malawi. Nyika Plateau, Kafwimbi (Kafwimba) Forest, 1977, *Pawek 12961* (K, MAL, MO).

Zambia. Nyika Plateau, without precise locality, 1975, *Pawek 10024* (K, MAL, MO).

Euphorbia schimperiana Scheele var. *pubescens* (N.E.Br.) S.Carter

As for var. *schimperiana*, but stems usually hairy, at least below the point of insertion of the leaves. Zimbabwe to Nigeria and Sudan.

Source. Brummitt (1973).

Malawi. Nyika National Park, E. foot of Nganda, 1972, *Brummitt, Munthali & Synge 84* (K, MAL, SRGH, EA, P).

Zambia. Nyika, without precise locality, 1962, *Fanshawe 7217* (K, NDO, SRGH).

Euphorbia zambesiana Benth. var. *zambesiana* ✧

Perennial herb with a woody rootstock, producing numerous rebranching prostrate stems after fires; leaves hairless, to 35 x 9 mm, lanceolate to ovate, base subcordate, apex finely apiculate, lower surface often tinged red; a pyrophyte in open miombo woodland and montane grassland; 400–2,150 m. Mozambique to Malawi, Zambia, Angola, D.R.C., and Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Macaranga capensis (Baill.) Benth. ✧

wild poplar; *Chichewa*: bwabwa; *Yao*: msimira, nkankwa

Evergreen tree to 25 m with a spreading crown, trunk and branches with short spines; petioles to 300 mm long, leaves broadly ovate, to 250 x 200 mm, tip shortly acuminate, base shortly to deeply cordate; common in medium altitude submontane mixed evergreen forests, forest patches in grassland, and in regenerating forests, in the subcanopy woodland on mountain slopes and on swamp forest (mushitu) margins; 305–2,133 m. South Africa through eastern Africa to Ethiopia.

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White 2731* (FHO, K).

Macaranga kilimandscharica Pax

Macaranga capensis var. *kilimandscharica* (Pax) Friis & Gilbert

Sukwa: muondo

Similar to *M. capensis* (above), but the leaf tips more gradually tapering, the bases tapering to rounded, up to 150 x 100 mm, the lower surface often glaucous; in various evergreen forest types; 2,000–2,100 m. Eastern Africa from Sudan and Ethiopia to Malawi. Regarded as a subspecies of *M. capensis* by some authors (for example, Friis 1992).

Source. *Flora zambesiaca* 9(4): 165 (1996).

Malawi. Nyika Plateau, Kasyaula, and Zovochipolo Forests (Dowsett-Lemaire 1985: 315).

Zambia. Nyika Plateau, Chowo Forest, 1976, *Pawek 11785* (K, MAL, MO).

Monadenium orobanchoides P.R.O.Bally ✧

Monadenium chevalieri var. *spathulatum* P.R.O.Bally

Geophyte with 1–4 annual aerial stems, all parts with milky latex; leaves in rosettes, obovate, often reddish below; flowers in cymes borne on peduncles 5–30 mm long; fruit a 3-lobed capsule ca 4 mm diameter; in montane grassland and in wooded grassland, often among rocks; 1,500–2,300 m. Malawi and S. Tanzania.

Malawi. Nyika National Park, Mwanda Ridge, 2000, *Winter 4184* (MAL); 3 km S.W. of Zambian Rest House, 1958, *Robson & Angus 224* (K, holo. [of *M. chevalieri* var. *spathulatum*]).

Neoboutonia macrocalyx Pax ✧

Open-crowned tree to 30 m tall, with a straight, clear bole, bark smooth, pale; petioles hairy, 50–150 mm, leaves 100–300 x 100–250 mm, roundish to broadly ovate, base cordate, tip blunt to shortly acuminate; fruit to 13 mm diameter, 3-locular, hairy-scaly; a locally common subcanopy tree in evergreen forest; 600–2,150 m. Eastern Africa, from Zimbabwe to Kenya and Uganda. A fast-growing pioneer species of forests.

Source. *Flora zambesiaca* 9(4): 310 (1996).

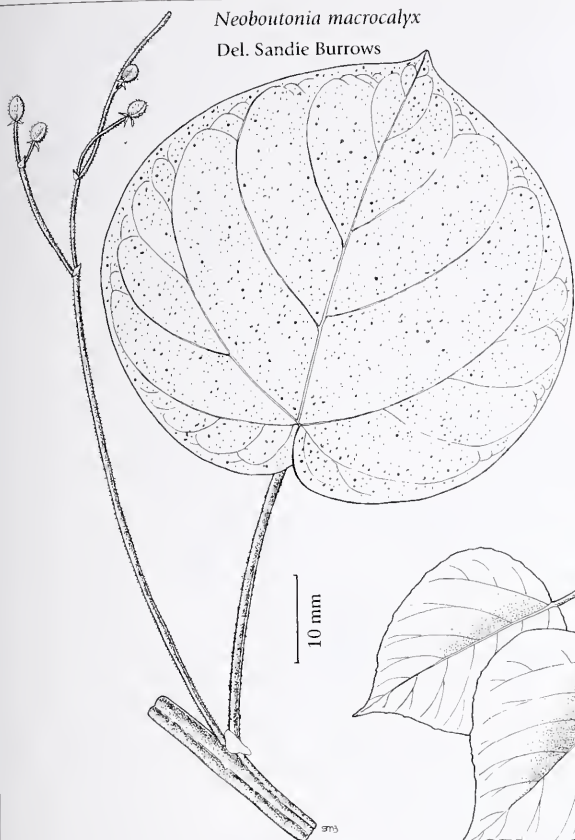
Malawi. Nyika National Park, Kaziya Forest, 1981, *Salubeni & Tawakali 2986* (MAL, MO, SRGH).

Zambia. Nyika Plateau, without precise locality, 1958, *Robson & Angus 477* (BM, K, LISC).

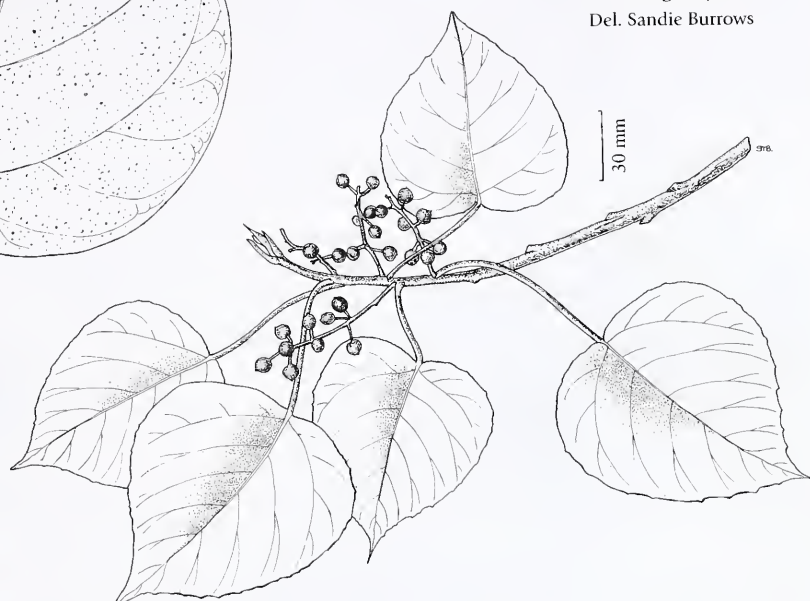
Phyllanthus arvensis Müll.Arg.

Flat, mat-forming herb or erect shrublet to 2 m, hairless, stems red, fleshy; leaves closely distichous, ovate-suborbicular to elliptic-obovate; in moist

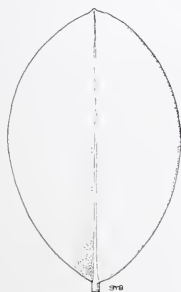
Neoboutonia macrocalyx
Del. Sandie Burrows



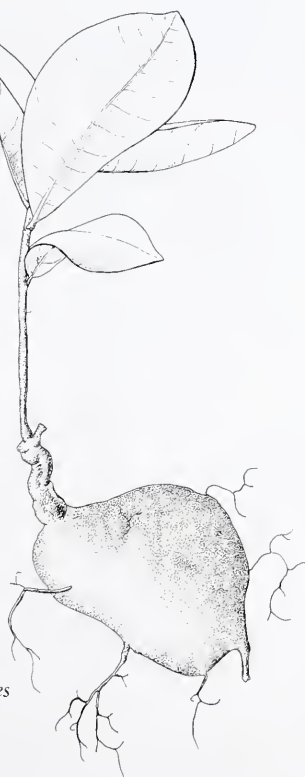
Macaranga capensis
Del. Sandie Burrows



20 mm



Monadenium orobanchoides
Del. Sandie Burrows

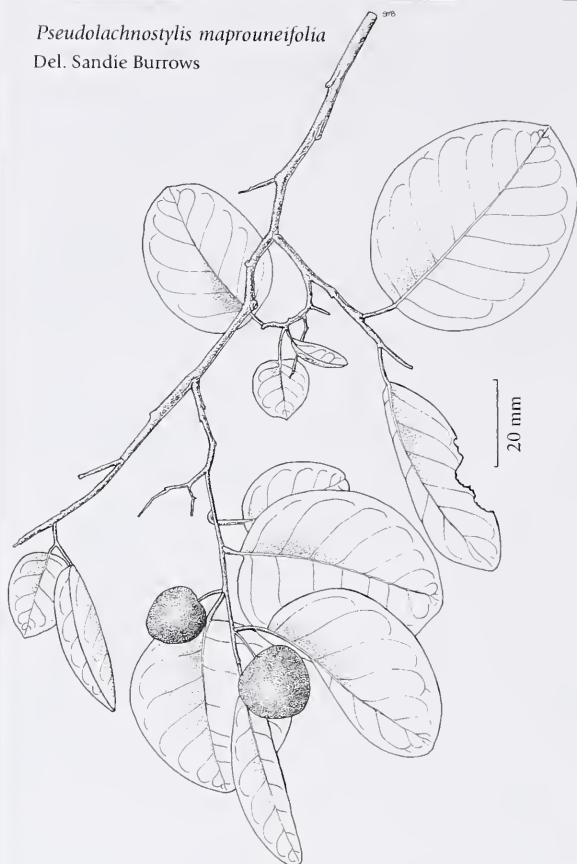


20 mm



Phyllanthus beillei
Del. Sandie Burrows

Pseudolachnostylis maprouneifolia
Del. Sandie Burrows



Ricinus communis var. *communis*
Del. Sandie Burrows



Sapium ellipticum
Del. Sandie Burrows



Suregada procera
Del. Sandie Burrows

localities, usually in peaty soil in submontane grassland beside streams, swamps, and in seepage areas on granite outcrops; 1,220–2,285 m. Malawi, Zimbabwe, Zambia, D.R.C., Tanzania, and Angola.

Source. *Flora zambesiaca* 9(4): 79 (1996).

Malawi. Nyika Plateau, Chelunduo Stream, 1958, *Robson & Angus* 383 (BM, K, LISC, SRGH).

Phyllanthus beillei Hutch. ❖

Phyllanthus nyassae Pax & Hoffm.

This collection is intermediate between *P. beillei* and *P. welwitschianus* in habit and vegetative features (*Flora zambesiaca* 9(4): 85 (1996)).

Source. Brummitt (1973);

Malawi. Nyika National Park, by lower Mondwe River, 1972, *Brummitt & Syngé* 227 (K).

Phyllanthus holostylus Milne-Redh.

Erect tufted hairless perennial herb to 150 mm tall; leaves ovate-lanceolate to lanceolate, 5–15 x 2–7 mm; fruit round, 2.5 x 4.5 mm, smooth, greenish; a pyrophyte in grassland, dambos, and high-rainfall woodland; 1,500–1,960 m. N. Malawi, Zambia, D.R.C., and Angola.

Malawi. Nyika National Park, 2000, *Mwanyambo* 519 (MAL).

Phyllanthus nyikae Radcl.-Sm.

Phyllanthus sp. 2 sensu Brenan (1954: 69)

Erect branched shrub to 2.5 m tall, shoots with minute hairs; leaves closely distichous, elliptic-obovate to elliptic-oblong, scale leaves strongly reflexed; in montane grassland and forest edges; 200–2,350 m. Endemic to Nyika Plateau.

Source. *Flora zambesiaca* 9(4): 78 (1996).

Malawi. Nyika Plateau, 1946, *Brass* 17332 (K, holo.; BM, NY, PRE, SRGH); Nyamkowa, 6.5 km W. of Livingstonia, 1978, *Pawek* 13851 (DAV, K, MAL, MO, SRGH, UC).

Phyllanthus parvus Hutch.

Glabrous erect annual herb to 200 mm tall, often reddish or purple tinged; leaves distichous, linear-lanceolate to narrowly elliptic, green above, glaucous, pinkish below; fruit smooth greenish brown, 1.2 x 2 mm; in upland grassland, amongst rock outcrops, in miombo woodland, and on roadsides; 1,370–2,340 m. Malawi, Zambia, Angola, D.R.C., and Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Phyllanthus paxii Hutch.

Stiffly erect woody shrublet to 1.2 m, unbranched at base; leaves distichous, elliptic to elliptic-lanceolate, 5–18 x 1–7 mm, tip tapering, mucronate, hairless, dark green above, glaucous below; fruit round, 6-lobed, to 2.5 x 4 mm, smooth, reddish when ripe; high-rainfall miombo woodland, wooded grassland, riverine forest; 500–1,525 m. N. Mozambique to Angola, D.R.C., and Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Pseudolachnostylis maprouneifolia Pax ❖

duiker-berry; *Chichewa*: msolo; *Tumbuka*: msono

Deciduous tree to 18 m tall, crown rounded, bark grey, flaking; leaves broadly ovate to elliptic-ovate, base rounded, apex blunt, hairless; flowers small, in leaf axils, fruit a roundish green berry 13–20 mm diameter; in various types of woodland and wooded grassland. Widespread in tropical Africa S. of the equator. Four varieties are recognized; it is not known to which this collection belongs. The fruit is edible and provides a dye; various parts of the tree have several medicinal properties.

Source. Brummitt (1973).

Malawi. Nyika National Park, Sawi Valley, 1972, *Syngé* 412 (MAL).

***Ricinus communis** L. var. **communis** ❖

castor oil plant; *Chichewa*: msadzi; *Yao*: mbalika

Erect tree-like herb with hollow stems when young, all parts grey, greyish or with a reddish tinge; leaves simple, 5- to 11-lobed, 100–500 mm wide, margins coarsely toothed; fruit a 3-lobed capsule 10–23 mm long, set with

spines; cosmopolitan weed of disturbed areas, often on river-banks. Yields castor oil of commerce, but the seeds are poisonous. In Malawi this plant has many traditional and medicinal uses.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Sapium ellipticum (Hochst. ex C.Krauss) Pax ❖

jumping-seed tree; *Chichewa*: mchenji; *Yao*: mchenjeli, manyadi, mtamamjuwa

Evergreen tree to 30 m tall with a clear bole and rather drooping branches; bark smooth grey, aging to dark brown, rough; leaves alternate, elliptic-oblong to elliptic-lanceolate, 50–140 x 20–70 mm, base rounded, tip narrowly tapering, margins finely serrate, hairless; fruit 2- (or 3-) lobed, to 9 x 12 mm, smooth, shiny; in evergreen forest, riverine and gully forest, swamp forest; 500–1,800 m. Widespread in Africa from South Africa to Guinea and Ethiopia.

Malawi. Nyika National Park, Chisanga Falls, 2000, *Mwanyambo* 500 (MAL).

Suregada procera (Prain) Croizat ❖

forest canary-berry

Evergreen tree to 20 m tall, branches more or less horizontal; leaves alternate, 30–140 x 10–70 mm, elliptic to elliptic-ovate, leathery glossy dark green, margin finely toothed, tip blunt, base tapering; fruit a 3-lobed dehiscent capsule, smooth; subcanopy or understorey tree of low to medium-altitude evergreen forest and riverine forest; 300–2,133 m. South Africa to D.R.C., Sudan, and Ethiopia.

Source. *Flora zambesiaca* 9(4): 251 (1996).

Malawi. Nyika Plateau, Kasyaula Forest (Dowsett-Lemaire 1985: 315).

Zambia. Nyika Plateau, Manyenjere and Kasoma Forests (Dowsett-Lemaire 1985: 315).

Tragia kirkiana Müll.Arg. ❖

Climbing or trailing perennial herb with stems to 3 m from a woody rootstock, with stinging hairs; leaves triangular-lanceolate to linear-lanceolate, often hastate, margins sharply serrate, 5- to 7-nerved from the base, hairy or not; fruit with 3 keeled lobes; in riverine forest and thicket, and high-rainfall woodland; 180–1,280 m. South Africa to Tanzania and Kenya.

Source. *Flora zambesiaca* 9(4): 235 (1996).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Tragia okanyua Pax

Climbing nettle-like perennial herb, stems to 3 m tall, twining, all parts hairy with stinging bristles; petioles 3–80 mm long, leaves ovate-lanceolate, 3-lobed, base cordate, 5- to 7-nerved from the base; fruit a 3-lobed capsule, 8–9 mm long, smooth; in various types of woodland and thicket at medium to low altitudes; 0–1,350 m. South Africa to Angola and Tanzania. Very similar to, and perhaps here confused with, *T. brevipes* Pax which occurs at higher altitudes.

Source. *Flora zambesiaca* 9(4): 228 (1996).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Tragiella anomala (Prain) Pax & K.Hoffm. ❖

Sphaerostylis anomala (Prain) Croizat

Monococious vine up to 8 m, young stems hairy, mixed with stinging hairs; petioles 5–70 mm long, leaves ovate-oblong, 30–110 mm long, base cordate, 3- to 5-nerved from the base, sparsely hairy; fruit a 3-lobed capsule, to 9 mm long; in montane evergreen forest understorey; 1,580–2,150 m. Confined to N. Malawi, N.E. Zambia, and Tanzania.

Source. *Flora zambesiaca* 9(4): 215 (1996).

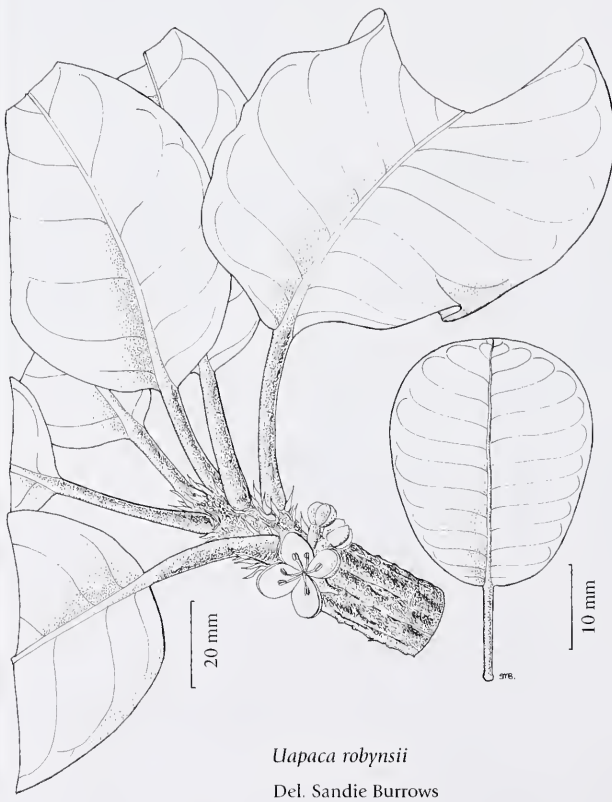
Malawi. S.W. Nyika (White et al.: 261 (2001)).

Zambia. Nyika Plateau, Mt. Kangampande (Chowo Forest), 1952, *White* 2761 (FHO, K).

Uapaca kirkiana Müll.Arg.

wild loquat; *Chichewa*: msuku, mtoto

A much-branched evergreen tree with spreading crown, rough grey bark;



leaves large, stiff, roundish or broadly obovate, 100–270 × 70–170 mm, hairless above, finely hairy below; fruit borne on bare branches below leaves, 40 mm diameter, roundish to faintly 4-lobed, hairless, orange-yellow when ripe, edible; *msuku* woodland is a common component of the open canopy *Brachystegia* woodland which covers the thin stony soils and rift valley escarpments; 30–1,830 m. Widespread in south-central Africa. The fruit is edible and relished by humans and animals; the timber is useful for building purposes. Sixteen species of edible fungi are associated with this tree.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Uapaca nitida Müll.Arg.

Chichewa: kasokolowe, msokolowe; *Tumbuka:* msalinja; *Yao:* msechera, mtoto, mselechera

Small evergreen tree to 12 m, bark smooth at first, grey, rough later, twigs hairless; leaves with long petioles 15–60 mm long, leaves elliptic-oblongate, 40–160 × 15–80 mm, base tapering, tip blunt, shiny dark green above, hairless throughout; fruit ovoid-ellipsoid, 14–20 mm, faintly

12-ribbed, reddish when ripe, edible; in miombo and other types of deciduous woodland, often on rocky hillsides; 40–1,830 m. Mozambique to Angola, D.R.C., and Kenya.

Source. Brummitt (1973).

Malawi. Nyika National Park, Sawi Valley, 1972, *Synge* 410 (K, MAL, SRGH).

Uapaca robynsii De Wild. ♦●

Spreading, often stunted and gnarled small tree to 7 m tall, bark grey to blackish, very rough, twigs densely hairy; leaves large, stiff, roundish to broadly ovate, 60–230 × 50–170 mm, more or less hairless above, densely hairy below; fruit ellipsoid, 30–25 mm, densely hairy at first, turning yellowish and hairless with age, edible; in miombo woodland, wooded grassland, sometimes locally dominant, usually in rocky or sandy soils or hillsides or escarpment edges; 1,300–2,000 m. N. Malawi, Zambia, and D.R.C.

Source. *Flora zambesiaca* 9(4): 102 (1996).

Malawi. Nyika Plateau, 1975, *Pawek* 10061 (K, MAL, MO, SRGH, UC); Chisanga Falls, 2000, *Salubeni & Mwanyambo* 6756 (MAL); *Burrows & Burrows* 6762 (PRE).

Zambia. Nyika National Park, Kaperekezi Road, 2000, *Phiri* 3836 (UZL).

Excluded species

Clutia robusta Pax

Similar to *C. paxii*, but the plants are somewhat taller (to 5 m tall) and more or less glabrous; petioles longer, to 15 mm long, and the leaves larger (to 110 × 35 mm). *C. robusta* is not recorded from Malawi in *Flora zambesiaca* (1996) and material of *C. robusta* from Zimbabwe may represent a distinct subspecies; the taxonomy of this complex is perhaps yet to be resolved and, in light of the comments in *Flora zambesiaca* 9(4): 130 (1996) under *C. paxii* (above), it seems likely that this collection is the same as that described under *C. paxii*.

Malawi. Nyika National Park (Mill 1979).

Erythrococca polyandra (Pax & Hoffm.) Prain

E. polyandra does not occur in Malawi (*Flora zambesiaca* 9(4): 173, 1996); this name has previously been applied to *E. trichogyne* (White *et al.* 2001: 252).

Malawi. Nyika National Park (Mill 1979).

Erythrococca usambarica Prain

This name does not appear in either *Flora zambesiaca* (1996) or in White *et al.* (2001) and appears to be a misidentification of *E. trichogyne* var. *psilogyne*.

Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 317).

Zambia. Nyika Plateau, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 317).

Phyllanthus microphyllinus Müll.Arg.

This taxon, listed in Mill (1979), originates from *Flora of Tropical Africa* 6,1: 714 (1913) where two localities are given from Angola. However, the species is not listed from *Flora zambesiaca* or from *Flora of Tropical East Africa* and is therefore excluded here.

FABACEAE

Adenocarpus mannii (Hook.f.) Hook.f. ?var. ♦

Upright shrub to 4.5 m tall, stems leafy, densely hairy; leaves densely clustered on short shoots, 3-foliate, hairy; flowers yellow, in dense terminal clusters; pods flattish, with ca 6 seeds, hairy; forest margins, montane grassland, and rocky outcrops; 1,500–4,000 m. Malawi to Angola, Nigeria, and Ethiopia. Variety unknown.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Aeschynomene abyssinica (A.Rich.) Vatke

Erect branched shrub 0.8–4.5 m tall, sub-viscid, glabrescent; leaves 10–30(48)-foliolate; flowers yellow with purplish veins; pods of 1–2 segments, glabrous; grassland, miombo woodland, scrub on rocky areas; 1,000–2,550 m. Zimbabwe to Nigeria and Ethiopia. Somewhat variable.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979); Mpopoti, 2000, *Mwanyambo* 556 (MAL); Thazima Road, 2000, *Phiri* 3598 (UZL).

Aeschynomene bracteosa Baker var. *bracteosa*

Erect or spreading subshrub 0.4–1.5 m tall, most parts sticky; leaves 12- to 56-foliate; pods with 1–2 rounded segments; in miombo or *Pterocarpus* woodland, seasonally burnt, sometimes in wet sites; 900–1,800 m. Malawi and Zimbabwe northwards to Angola, D.R.C., and Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Aeschynomene heurckea Baker ♦

Erect to trailing subshrub 0.6–4.5 m tall, hairy or almost so; leaves 12- to 32-foliate; pods of 2 rounded segments, glabrous; in grassland, marshes, and bush; 1,200–2,100 m. Mozambique, Malawi, Zambia, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 3(6): 97 (2000)

Malawi. Nyika Plateau, without locality or collector (Mill 1979).

Zambia. Nyika Plateau, without locality, 1962, *Verboom* 632 (K, LISC, SRGH).

Aeschynomene indica L.

Erect shrubby annual or perennial 0.3–2.5 m; leaves sometimes sensitive, 16–50(70) foliolate; flowers yellow/white, lined with red; pods 30–45 mm long, of 6–9 segments, sparsely hairy; in a wide variety of habitats, mostly moist; 0–1,530 m. Widespread in Africa; also in Madagascar, S.E. Asia, Australia, and N. America.

Source. Patel (1999).

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Aeschynomene nyassana Taub.

Erect pyrophyte from a woody rootstock, 0.15–3 m tall, stems glabrous, scabrid or viscid; leaves 14–80-foliolate, glabrous; pods of 1–2 segments, papery, subglabrous; in *Protea* grassland, margins of miombo, in burnt areas; 450–2,100 m. South Africa to D.R.C. and S. Tanzania.

Source. *Flora zambesiaca* 3(6): 113 (2000).

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Zambia. Nyika Plateau, 1956, *Benson* 152 (BM); 1958, *Verboom* 104 (K).

Aeschynomene nyikense Baker

Virgate subshrub to 3 m tall, sticky-glandular; leaves 18–26-foliolate; pods of 2 segments, glabrous; in secondary bush, forest margins, and in rank grasses; 1,260–1,800 m. Malawi and S. Tanzania.

Source. Brummitt (1973: 63).

Malawi. Nyika Plateau, S. slopes of Kawozya, 1972, *Brummitt & Sygne*

170 (K, MAL, SRGH); without locality, 6,000'–7,000', 1896, Whyte s.n. (K, holo.).

Aeschynomene oligophylla Harms

Erect subshrub 60–450 mm tall, numerous stems from a woody rootstock, pyrophyte, stems hairy or not; leaves 2- to 4-foliate, pressed to the stem, glabrous; pods of 1–2 segments, glabrous; in miombo woodland, grassland, especially rocky places; 1,500–2,100 m. Zambia, Malawi, S. D.R.C. and S. Tanzania.

Source. *Flora zambesiaca* 3(6): 94 (2000).

Malawi. Nyika Plateau, by main road, ca 3.2 km S.W. of Rest House, 1958, Robson & Angus 226 (BM, K, LISC, PRE, SRGH).

Zambia. Nyika Plateau, without locality, 1955, Lees 81 (K); near Rest House, 1960, Cox 28 (SRGH, UZL).

Aeschynomene rubrofarinacea (Taub.) F.White

Geissaspis rubrofarinacea (Taub.) Baker f.; *Humularia rubrofarinacea* (Taub.) Duvign.; *Humularia macclouinii* (De Wild.) Duvign.

Lax aromatic shrub 0.6–4.5 m tall, branchlets with a red-brown powdery bark, young stems densely sticky-haired; leaves 8- to 16-foliate, subglabrous; pods of 1–2 roundish segments, smooth to roughish; in wooded grassland, miombo woodland, old cultivation; 1,200–2,000 m. S. Tanzania, Zambia, and Malawi.

Source. *Flora zambesiaca* 3(6): 115 (2000)

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Zambia. Nyika Plateau, 8.8 km S.W. of Rest House, 1958, Robson & Angus 352 (BM, K, LISC, PRE, SRGH).

Aeschynomene schliebenii Harms var. **mossambicensis** (Baker f.) Verdc.

Aeschynomene nyikensis Baker var. *mossambicensis* Baker f.

Erect shrub 1–4.5 m tall, bark forming a distinctive reddish brown powdery coating; leaves 20–24-foliate; pods of 1 or 2 segments, hairy; miombo woodland or scrub; 1,650–1,800 m. Zimbabwe to Tanzania.

Source. *Flora zambesiaca* 3(6): 104 (2000).

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Aeschynomene semilunaris Hutch.

Shrub 1–4 m tall, bark roughish; leaves 10–28-foliate; pods of 1 or 2 semicircular segments, subglabrous; on rocky slopes and ridges in *Brachystegia*–*Protea* woodland and on margins of evergreen forest; 1,200–2,150 m. Confined to Zambia and Malawi.

Source. *Kirkia* 9(2): 396–397 (1974).

Zambia. Nyika Plateau, by main road to ca 3.2 km S.W. of Rest House, 1958, Robson & Angus 181 (BM, K, LISC, PRE, SRGH).

Aeschynomene solitariiflora Leonard

Many-stemmed erect herb with stems 100–300 mm long arising from a woody rootstock after fires; leaves 14–28-foliate; flowers yellow, brown-streaked; pods of 1–3 segments, joined by a very narrow neck, hairless; on steep grassy slopes on stony soil; 1,200–2,340 m. Malawi, Zambia, S. Tanzania, and D.R.C.

Source. *Kirkia* 9(2): 404–405 (1974).

Malawi. Nyika Plateau, Kasyaula Forest Reserve, Salubeni 361 (K).

Zambia. Nyika Plateau, by main road ca 3.2 km S.W. of the Rest House, 1958, Robson 204 (BM, K, LISC, PRE, SRGH).

Aeschynomene sparsiflora Baker

Prostrate perennial herb, or a straggly subshrub to 300 mm tall; leaves 6–10-foliate; inflorescence viscid; pods of a single segment; habitat not recorded. Rare; said to be a Nyika endemic (Brummitt 1973), but also on Mafinga Mountains (*Flora zambesiaca* 3(6): 93, 2000) and in S. Tanzania (F.T.E.A. 1971); known from only five specimens.

Source. Brummitt (1973: 63).

Malawi. Nyika Plateau, 6,000–7,000', 1896, Whyte 256 (K, syn.); Kawozya, slopes below summit, 1972, Brummitt & Syngae 204 (EA, K, LISC, MAL, PRE, SRGH).

Aeschynomene stolzii Harms

Prostrate cushion- or mat-forming subshrub (Tanzania) or erect (Malawi),

with finely hairy stems; leaves 10–24-foliate; pods of 2 rounded segments, sparsely hairy; in thick vegetation, sometimes near rivers; 1,740–2,700 m. N. Malawi and S. Tanzania.

Source. *Flora zambesiaca* 3(6): 97 (2000).

Malawi. Nyika Plateau, without locality, 1946, Brass 17170 (BM, K, NY, SRGH).

Aeschynomene tenuirama Baker var. **tenuirama**

Subshrub from woody rootstock, several erect stems to 2 m tall, glabrous when old; leaves 10–100-foliate; pods of 1–2 roundish segments, more or less hairless; 118–1,740 m. Angola, Malawi, Mozambique, D.R.C., and Zambia.

Source. *Flora zambesiaca* 3(6): 110 (2000).

Malawi. Nyika Plateau, ca 1.6 km in entrance road, 1976, Pawek 11767 (K).

Aeschynomene tenuirama Baker var. **hebecarpa** Verdc.

Differs from var. *tenuirama* in having hairy pods. Submontane grassland, 2,000–2,300 m. Near endemic; only found on the Nyika Plateau and Mafinga Hills.

Source. *Flora zambesiaca* 3(6): 110 (2000).

Malawi. Nyika Plateau, Mt. Mwenembwe, 1903, McClounie 134 (K, holo.).

Aeschynomene sp. E

Aeschynomene sp. G of Verdcourt in *Kirkia* 9 (1974).

Erect herb or small shrub 0.2–0.9 m tall; leaves 10- to 44-foliate; flowers yellow; pods of 102 segments, joined by a very narrow neck, hairless; in montane grassland. Malawi, Mozambique, and Tanzania. This is very similar to *A. trigonocarpa*, but also sometimes misidentified as *A. goetzei*.

Source. *Flora zambesiaca* 3(6): 109 (2000); Patel (1999).

Malawi. Nyika Plateau, bridge over River Chelinda, 1967, Hilliard & Burt 4388 (K, LISC).

Amphicarpea africana (Hook.f.) Harms ❖

Perennial climbing herb to 3.6 m long, stems slender, with reddish hairs; leaves 3-foliate, leaflets elliptic to obovate, 18–70 mm long, hairy beneath; flowers mauve to violet, in many-flowered racemes; pods flat, margins ciliate, ca 4 seeds; in and on edges of montane forest and scrub; 1,680–2,700 m. Malawi and Zambia to Cameroon and Ethiopia.

Source. *Flora zambesiaca* 3(5): 62 (2000).

Malawi. Nyika Plateau, Juniper Forest, 1975, Pawek 9959 (K, MAL, MO).

Zambia. Nyika Plateau, upper slopes of Kangampande Mt. (Chowo Forest), White 2779 (FHO, K).

Antopetitia abyssinica A.Rich. ❖

Spreading or erect hairy annual; leaflets 5–11, linear-lanceolate, glabrous above; flowers yellow or orange, brown-veined; pods beaded, *Zornia*-like, hairless; in montane grassland, cultivated areas; 1,000–3,200 m. Zimbabwe to Cameroon and Ethiopia.

Malawi. Nyika Plateau, without locality or collector (Mill 1979).

Argyrolobium rupestre (E.Mey.) Walp. subsp. **aberdaricum** (Harms) Polhill ❖

Low perennial with numerous prostrate or more or less ascending hairy branches; leaflets 3, lanceolate to elliptic or obovate, 10–34 mm long, hairy; flowers in racemes, bright yellow, thinly hairy outside, pod hairy, 8–14 mm long; montane grassland and moorland; 1,900–3,900 m. Malawi, Zambia (Nyika), E. D.R.C., to Ethiopia.

Malawi. Nyika Plateau, without locality or collector (Mill 1979); without locality or collector (Patel 1999).

Argyrolobium tomentosum (Andrews) Druce

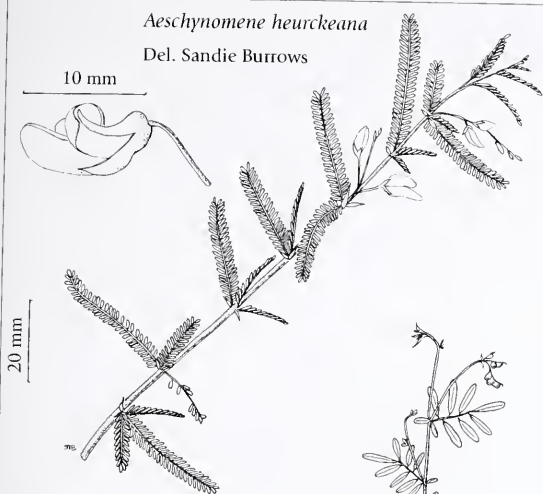
Argyrolobium shirensense Taub.

Bushy woody subshrub 0.7–1.5 m tall; leaflets 3, elliptic, 24–68 mm long, thinly hairy; flowers yellow, flushed orange, aging to red or purple; pod 34–60 mm long, 12–18-seeded, hairy; forest margins, riverine forest, montane grassland, and scrub; 900–2,400 m. South Africa to Uganda and E. D.R.C.

Source. Brummitt (1973: 64).

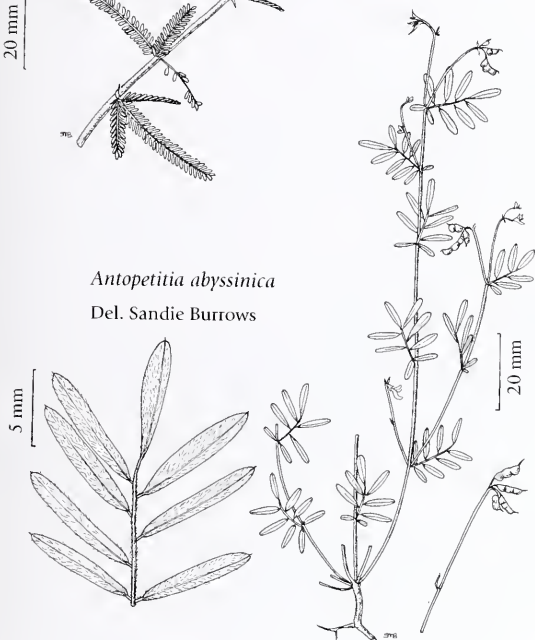
Aeschynomene heurckea

Del. Sandie Burrows



Antopetitia abyssinica

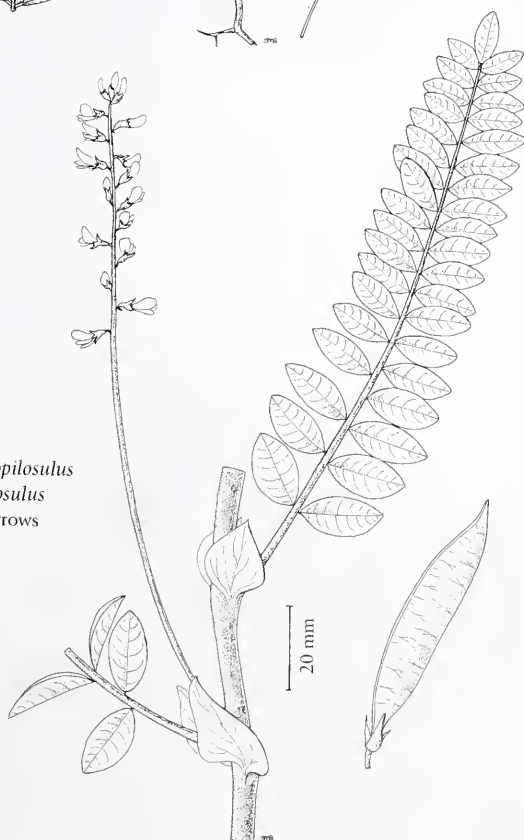
Del. Sandie Burrows



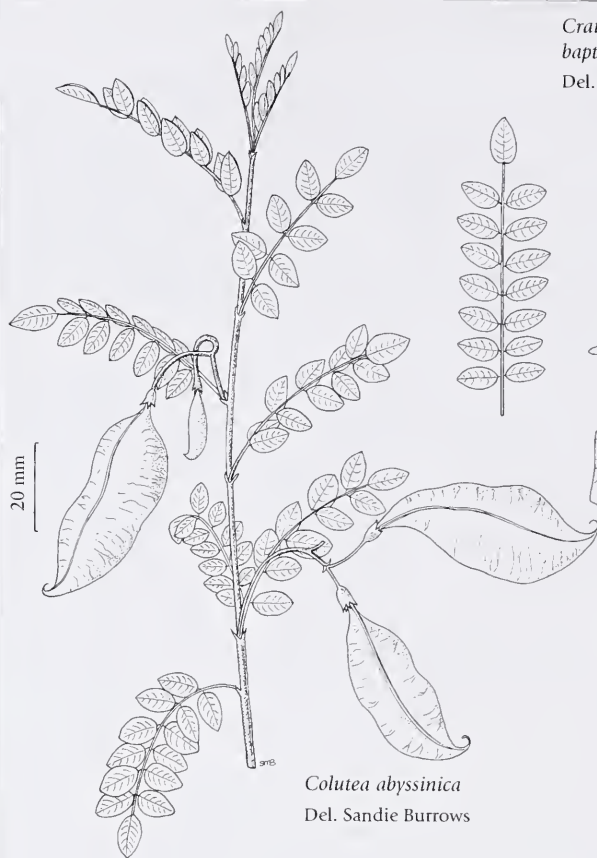
Amphicarpea africana

Del. Sandie Burrows

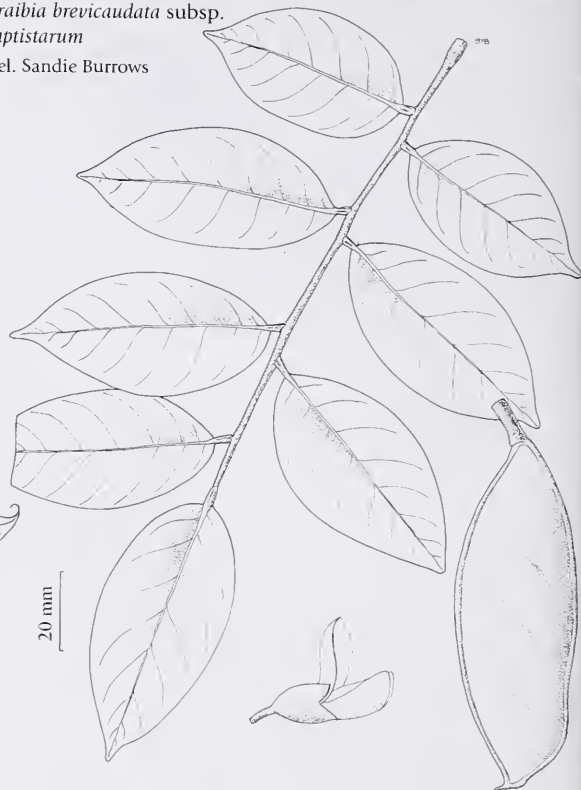
Astragalus atropilosulus
subsp. *atropilosulus*
Del. Sandie Burrows



Argyrolobium rupestre subsp. *aberdaricum*
Del. Sandie Burrows



Craibia brevicaudata subsp.
baptistarum
Del. Sandie Burrows



Dalbergia lactea
Del. Sandie Burrows



Malawi. Nyika Plateau, near Muzengapakweru, 1972, *Synge* 347 (FHO, K, JISC, MAL, SRGH); E. foot of Nganda, 1972, *Brummitt & Synge* 103 (K, MAL, PRE); Dembo Bridge, 2000, *Thera* 3001 (MAL).

Astragalus atropilosulus (Hochst.) Bunge subsp. **atropilosulus** ?var. ✧

Perennial or biennial herb to ca 1 m, stems cylindrical, ribbed, hairless; stipules large, leaf-like, ovate; leaflets 11–51, elliptic, to 30 mm long, hairless, or with some hairs below; flowers purplish, white or yellow; in grassland and forest margins. Varietal status yet to be confirmed.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Astragalus atropilosulus (Hochst.) Bunge subsp. **abyssinicus** (Hochst.) Gillett ?var.

Astragalus abyssinicus Steud. ex A.Rich.

Perennial or biennial herb to ca 1 m, stems cylindrical, ribbed, hairless, stipules large, leaf-like, ovate; leaflets 11–51, elliptic, to 30 mm long, hairless, or with some hairs below; flowers purplish, white or yellow; in grassland and forest margins. Varietal status yet to be confirmed.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Colutea abyssinica Kunth & Bouche ✧

Colutea istria sensu Cronquist, *Fl. Congo Belge* 5: 74 (1954)

Shrub 1–4 m tall; leaflets 9–15, obovate, mucronulate, hairless above, hairy below; flowers dark reddish brown; pod purplish or brownish, papery, inflated, hairless; in montane grassland, scrub or forest margins; 1,800–3,000 m. Tanzania to Ethiopia (not listed for Malawi in *F.T.E.A.*).

Malawi. Nyika Plateau, without locality (?northern end) or collector (Patel 1999).

Craibia brevicaudata (Vatke) Dunn subsp. **baptistarum** (Buettn.) Gillett ✧

Evergreen tree to 20 m; leaves with 3–7 glossy dark green leaflets; flowers white, showy; pods woody, to 90 mm long; in evergreen forest. Zimbabwe to S. D.R.C. and Tanzania; rather rare on the Nyika.

Malawi. Nyika Plateau, Kasyaula Forest (Dowsett-Lemaire 1985: 314).

Zambia. Nyika Plateau, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 314).

Crotalaria abbreviata Baker f.

Crotalaria fulvella Merxm.

Annual, ascending, to 0.3 m tall, stems tawny-haired; leaflets 3, oblanceolate to obovate-elliptic, to 12–40 mm long, hairy, stipules filiform, 2–4.5 mm long; flowers pale yellow veined purplish; pods almost spherical, 6–8 mm long, 1–2-seeded, densely hairy; in woodland, grassland, scrub, disturbed areas; 750–1,650 m. Tanzania, D.R.C., Zambia, and a single locality in Zimbabwe (not listed for Malawi in *F.T.E.A.* or in Polhill 1982).

Malawi. Nyika Plateau, without locality (?northern end) or collector (Patel 1999).

Crotalaria argyrolobioides Baker

Crotalaria kasikiensis Baker f.: *Crotalaria singuliflora* Baker f.

Erect shrubby annual or perennial to 1.6 m; leaflets 3, oblanceolate to elliptic, apex rounded, stipules absent; flowers yellow, reddish and more or less hairy outside; pod short, 7–9 mm long, 5–8-seeded, hairy; in montane grassland and scrub; 1,570–2,100 m. Mozambique, Malawi, Zambia, D.R.C., and Tanzania.

Source. Brummitt (1997: 64).

Malawi. Nyika Plateau, 6,000'–7,000', 1896, *Whyte* 109 & 117 (K, syn.); W. foot of Nganda, 1972, *Brummitt & Synge* 24 (K).

Crotalaria becquetii R.Wilczek subsp. **turgida** Polhill

Crotalaria laburnifolia sensu Brenan (1953), non L.

Much-branched shrub 1.3–3 m tall; leaves 3-foliolate, leaflets elliptic, to 9 × 4 mm, subglabrous, stipules absent; pods 5–9 mm long, glabrous; on forest margins, 1,800–2,100 m. Malawi, Zambia (Nyika only) and possibly S. Tanzania. Almost a Malawian endemic.

Source. Dowsett-Lemaire (1985: 323).

Malawi. Nyika Plateau, Zovochipolo Forest, *Dowsett-Lemaire* 235 (her-

baria not stated); Chelinda Bridge, 2000, *Mwanyambo* 536 (MAL).

Crotalaria cleomifolia Welw. ex Baker

Crotalaria longibracteata De Wild.

Much-branched shrub 1–4 m tall; leaflets 3–5, elliptic, 50–110 mm long, pointed; stipules slender, 1–5 mm long; flowers yellow, red-veined; pods 38–50 mm long, 30–40-seeded, hairy; on forest margins, in montane grassland, and scrub, disturbed areas; 1,150–2,550 m. Widespread in tropical Africa.

Source. Brummitt (1997: 64).

Malawi. Nyika Plateau, Sawi Valley, 1972, *Synge* 462 (K, MAL); Mpopoti, 2000, *Mwanyambo* 558 (MAL).

Zambia. Nyika National Park, western part of Park, 2000, *Phiri* 3935 (UZL).

Crotalaria dedzana Polhill ✧

Erect perennial 0.6–1 m tall; leaflets 3, oblanceolate, with tufts of small leaves in the large leaf axils, stipules subulate, 1–2 mm long; pods 7–10 mm long, 6–8-seeded; in miombo woodland and montane grassland; 1,650–2,300 m. A Malawi endemic.

Malawi. Nyika Plateau, without locality (?northern end) or collector (Patel 1999).

Crotalaria goetzei Harms

Bushy shrub 1–3 m tall; leaves 3-foliolate, leaflets lanceolate to obovate, to 53 × 24 mm, hairless above, hairy below; pods 25–38 mm long, densely hairy; in grassland, particularly on rocky outcrops, 900–2,100 m. Mozambique, Malawi, Zambia, and S. Tanzania.

Malawi. Nyika National Park (Dowsett-Lemaire 1985: 335).

Zambia. Nyika Plateau, near Chowo Forest, *Dowsett-Lemaire* 124 (herbaria not stated).

Crotalaria kipandensis Baker f.

Crotalaria pseudokipandensis R.Wilczek

Erect annual 200–600 mm tall, densely hairy; leaves 1-foliolate (simple), oblong-lanceolate, hairy; flowers in a dense terminal raceme, pale yellow, red-veined; pods sessile, ovoid-ellipsoid, 6–8 mm long, hairy, 4–8-seeded; in *Brachystegia* woodland; 900–1,500 m. Also in N. Zimbabwe, Zambia, S. D.R.C. (Katanga) and S. Tanzania.

Malawi. Nyika National Park, without locality or collector (Patel 1999).

Crotalaria lachnocarpoides Engl.

Woody herb or shrub 0.5–2.5 m tall; leaflets 3, oblanceolate- or elliptic-oblong, 35–70 mm long, silky grey on both surfaces, stipules filiform, 5–8 mm; flowers yellow, reddish brown outside; pods 25–30 mm long, with 20–26 seeds, hairy; in grassland, forest margins, and scrub; 1,200–2,650 m. Zimbabwe to Ethiopia.

Malawi. Nyika Plateau, without locality or collecting details (Mill 1979).

Crotalaria lachnophora A.Rich.

Crotalaria bomblei De Wild.

Bushy shrub 1–3 m tall, branches faintly ribbed, hairy; leaflets 3, oblanceolate to elliptic or obovate, 30–75 mm long, stipules oblong-falcate, 9–25 mm long, caudate; flowers a clear yellow; pods subsessile, 28–42 mm long, with 16–18 seeds, hairy; in wooded grassland, riverine bush, disturbed areas; 1,100–2,000 m. Zimbabwe northwards throughout tropical Africa.

Source. Brummitt (1973: 64).

Malawi. Nyika Plateau, Chipome Valley, 1972, *Synge* 265 (K, MAL, SRGH); W. of Vitinithiza Hill, 2000, *Salubeni & Mwanyambo* 6760 (MAL).

Crotalaria natalitia Meisner ?var.

Shrub 1–2.6 m tall, 1–several stems and ascending ribbed branches; leaves crowded on short side shoots, leaflets 3, linear-oblanceolate, 20–42 mm long, stipules unequal, oblong-falcate, 5–15 mm long; flowers yellow, tinged reddish; pods 35–45 mm long, with 25–40 seeds, glabrous, dark-mottled; in woodland, riverine forest, scrub, forest margins. Variety yet to be determined.

Malawi. Nyika Plateau, without locality or collecting details (Mill 1979).

No country given. 1962, *Lawton* 930 (UZL).

***Crotalaria nyikense* Baker**

Erect annual 0.6–1.3 m tall; leaflets 3, narrowly oblanceolate, stipules absent; pods 5–6 mm long, with 1–2 seeds, hairy; in montane grassland. Almost a *Flora zambesiaca* endemic, occurring from Lake Tanganyika (Zambia), through most of Malawi, and extreme S. of Tanzania (Rungwe).

Malawi. Nyika Plateau, 6,000'–7,000', 1896, *Whyte 151* (K, holo.); without locality or collecting details (Mill 1979); Thazima Gate, 2000, *Salubeni & Mwanyambo 6758* (MAL).

***Crotalaria ochroleuca* G.Don**

Erect annual or short-lived perennial, 0.5–2.5 m tall, stems lax, ribbed; leaves 3-foliolate, leaflets mostly linear, finely hairy below, stipules absent; flowers cream to pale yellow, red-veined; pods cylindrical, 50–70 mm long, finely hairy, to 100-seeded; in grasslands, often in moist or disturbed areas. Widespread in tropical Africa; also on Madagascar.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Crotalaria pallida* Aiton**

Erect well-branched herb 1–2 m tall; leaves 3-foliolate, leaflets elliptic to obovate, finely hairy below, stipules hair-like; flowers yellow, red-veined; pod cylindrical, slightly curved, 38–50 mm long, almost hairless; in grassy, moist areas, sometimes a weed. Widespread in tropical Africa. Grown as a green manure and now widely naturalised as a result.

Malawi. Nyika National Park, without locality or collector (Patel 1999).

***Crotalaria pilosiflora* Baker**

Subshrub to 2.5 m high, stems with spreading-pubescent; leaflets 3, elliptic, 15–35 mm long, stipules linear, 2–4 mm long; pods subglobose, 12–15 mm long, with 12–14 seeds, furry; in miombo woodland. Endemic to Nyika Plateau.

Source. Brummitt (1973: 64).

Malawi. Nyika Plateau, 6,000'–7,000', 1896, *Whyte* s.n. (K, holo.); E. foot of Nganda, 1972, *Brummitt & Syngé 104* (K, MAL, SRGH).

***Crotalaria recta* Steud. ex A.Rich.**

Perennial with several erect, more or less unbranched hollow, ribbed stems; leaflets 3, linear-lanceolate to obovate, 18–140 mm long, stipules linear-lanceolate, 6–9 mm long, deflexed; flowers yellow, purple-veined; pods 52–60 mm long, hairless, with 26–34 seeds; in grassland, forest margins, disturbed areas; 850–2,550 m. South Africa to Nigeria and Ethiopia.

Malawi. Nyika Plateau, without locality or collector (Mill 1979).

***Crotalaria rhodesiae* Baker f.**

Prostrate perennial, stems hairy; leaflets 3, oblanceolate to obovate, stipules shortly stalked, linear to lanceolate; flowers yellow, tinged red outside; pods sessile, cylindrical, 20–27 mm long, with 16–22 seeds, sometimes hairy; upland areas in woodland, grassland, often on sand or seepage areas. N. South Africa, Zimbabwe, Zambia, Malawi, and S. Tanzania.

Malawi. Nyika National Park, Runyina River, 2000, *Phiri 3802* (UZL).

***Crotalaria ringoetii* Baker f.**

Erect laxly branched annual to 0.9 m tall; leaflets 1 (simple), narrowly oblanceolate, stipules absent; pods small, 3–4 mm long, 2-seeded, hairy; in miombo woodland, often in disturbed areas. Mozambique, Malawi, Zambia, D.R.C. (Katanga), and Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

***Crotalaria shirensis* (Baker f.) Milne-Redh.**

Small erect annual 250 mm tall; leaves simple, linear-oblanceolate to terete, 20–40 mm long, hairless, stipules filiform, ca 1 mm long; flowers pale yellow; pods cylindrical, 7–8 mm long, with 12–15 seeds, thinly hairy; sandy places in miombo woodland, along roadsides; 1,180–1,650 m. Malawi and Mozambique to Zambia, D.R.C., and Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

***Crotalaria sparsifolia* Baker**

Erect annual to 450 mm tall with numerous ascending branches; leaflets mostly 3 (upper ones 1), narrowly oblanceolate, hairy, stipules absent; pods

roundish, 5–6 mm long, with 3–6 seeds, hairy; miombo woodland and scrub, sandy places; 900–1,700 m. Zimbabwe to Tanzania.

Malawi. Nyika Plateau, 6,000'–7,000', 1896, *Whyte* s.n. (K, holo.); without locality, collector unknown (Mill 1979).

***Crotalaria stolzii* (Baker f.) Milne-Redh.**

Straggling subwoody perennial 1–3 m tall; leaflets 3, oblanceolate, 20–29 mm long, hairless above, sparsely hairy below, stipules leafy, ovate-cordate 15–22 mm long; flowers bright yellow, pod 16–18 mm long, with 6–8 seeds, glabrous; in montane grassland, forest margins, stream banks; 1,800–3,000 m. Zimbabwe to Kenya.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979); Chelinda Bridge, 2000, *Salubeni & Mwanyambo 6771* (MAL); Juniper Forest Reserve, 2000, *Chikuni 520* (MAL).

***Crotalaria subcaespitosa* Polhill**

Crotalaria caespitosa Baker (1897), non Roxb. (1832)

Woody rootstock with numerous ascending stems 100–250 mm long; leaflets 3, oblanceolate to elliptic, 10–25 mm long, stipules linear, 1–3 mm; pods 9–15 mm long, with 8–16 seeds, hairy; in miombo woodland, burnt upland grassland. Almost a Malawi endemic, also in the Rungwe area of S. Tanzania.

Malawi. Nyika Plateau, near Dembo River bridge, 2000, *Willis 11* (MAL, PRE, UZL); without locality, collector unknown (Mill 1979).

***Crotalaria subcapitata* De Wild. subsp. *capitata* var. *fwamboensis* (Baker f.) Polhill**

Crotalaria nicholsonii Baker f.

Straggly or erect annual or perennial to 1 m tall; leaflets 3, variable, linear-lanceolate to elliptic or obovate, 15–80 mm long, stipules subulate, recurved, 1–3 mm long; flowers yellow, reddish-veined; pod 12–24 mm long, with 20–30 seeds, hairy; in grassland along streams, woodland, forest margins. S.E. tropical Africa.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

***Crotalaria subspicata* Polhill**

Erect annual to 300 mm tall, stem usually unbranched; leaves 3-foliolate (upper ones sometimes 1-foliolate), sparsely hairy above, less so below, petiole 2–5 mm long; flowers yellow, standard hairy outside; pods ovoid-globose, 4–5 mm long, hairy, 4- to 6-seeded; in *Brachystegia* woodland. Malawi and S. Tanzania. This is the first record of this species for Malawi (N.).

Malawi. Nyika National Park, Juniper Forest Reserve, 2000, *Koekemoer 1880* (PRE).

***Crotalaria tabularis* Baker f.**

Shrub to 3 m tall; leaves elliptic, to 85 × 33 mm, glabrous above, hairy below, stipules filiform, 1–4 mm; pods 45–65 mm long; forest margins, scrub, and grassland; 1,200–2,700 m. Mozambique, Malawi, Zambia (Nyika Plateau), Tanzania and Kenya.

Malawi. Nyika Plateau, without precise locality (Dowsett-Lemaire 1985: 384); Nyika Plateau, 1896, *Whyte* s.n. (K, holo.).

***Crotalaria valida* Baker**

Perennial with woody rootstock and several erect unbranched stems, or shrub to 1.3 m; leaflets 3 (1 in upper shoots), oblong-lanceolate to elliptic, 62–85 mm long, stipules filiform, to 5 mm long; flowers deep yellow, silky outside; pods to 25 mm long, 10- to 22-seeded, hairy; in miombo woodland, montane grassland; 900–2,400 m. Zimbabwe to D.R.C. (Katanga) and Tanzania.

Source. Brummitt (1973: 64).

Malawi. Nyika Plateau, 6,000'–7,000', 1896, *Whyte* s.n. (K, syn.); S. slopes of Kawozya, 1972, *Brummitt & Syngé 177* (K, MAL); southern circular route at Chelinda Bridge, 2000, *Koekemoer 1777* (PRE).

***Dalbergia fischeri* Taub.**

Large climber with stems to 0.5 m in diameter and armed with large woody spines (Dowsett-Lemaire) or small tree or scandent shrub (*F.T.E.A.*); leaves with 5–8 pairs of leaflets; flowers white to cream, fragrant; pods 70–145 mm

long, with 1–4 seeds, hairless; in riverine forest or miombo, 200–1,800 m. Zimbabwe to Tanzania.

Source. Dowsett-Lemaire (1985: 362).

Malawi. Nyika Plateau, N. Rukuru Falls, 1,600–1,800 m, *Dowsett-Lemaire* 327 (herbaria not stated).

***Dalbergia lactea* Vatke ✧**

Liane (Dowsett-Lemaire) or small tree/scandent shrub (*F.T.E.A.*), with some coiled branches; leaves with 6–10 pairs of leaflets; flowers white, flushed with purple; pods 1-seeded, flat, hairless; montane forest and scrub; 1,850–2,000 m on Nyika, 540–2,400 m elsewhere. Zimbabwe to Nigeria and Ethiopia.

Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 320).

Zambia. Nyika Plateau, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 320).

***Dalbergiella nyasae* Baker f. ✧**

Chichewa: mlembela; *Yao:* mlundo

Deciduous tree to 9 m tall, in mixed woodland; leaves crowded on short branchlets, pinnate with 6–10 pairs of opposite leaflets; flowers white to yellowish, fragrant; pods flat, 1- to 2-seeded, distinctively fringed with hairs on one side; 350–1,250 m. Zimbabwe to Zambia and Tanzania.

Malawi. Nyika Plateau, without locality (?northern end), collector unknown (Patel 1999).

***Desmodium barbatum* (L.) Benth. ?var. *dimorphum* (Welw. ex Baker) B.G.Schubert ✧**

Variable erect or prostrate herb with hairy stems; leaves 1- to 3-foliolate, leaflets almost round or elliptic, hairy or not; flowers red, purple or blue; pods of 1–6 segments, hairy-sticky; in grassland and deciduous woodland. Variety to be determined, but var. *dimorphum* is the most widespread and most likely candidate.

Malawi. Nyika Plateau, without locality (?northern end), collector unknown (Patel 1999); between Chisanga Falls and Kaperekezi Gate, 2000, *Salubeni & Mwanyambo* 6833 (MAL); path to Chisanga Falls, 2000, *Burrows & Burrows* 6779 (PRE).

***Desmodium gangeticum* (L.) DC.**

Herbaceous to woody perennial 0.1–1.5 m, stems prostrate to erect; leaves 1-foliolate, ovate to elliptic-acuminate, hairy; flowers variable, white to red or mauve; pods of up to 7–8 segments, hairy-sticky; in deciduous woodland, wooded grassland, riverine forest; sea-level to 2,000 m. Throughout the Old World tropics.

Source. *Flora zambesiaca* 3(6): 9 (2000).

Malawi. Nyika Plateau, without locality (?northern end), collector unknown (Patel 1999); Nyika Plateau, without locality, 1896, *Whyte* s.n. (K).

***Desmodium repandum* (Vahl) DC. ✧**

Podocarpium repandum (Vahl) Yang & Huang

Perennial herb, scrambling or forming dense undergrowth, 0.5–1 m tall; leaves 3-foliolate, leaflets more or less rhombic, thin, finely hairy; flowers pink to red; pods to 5-segmented, hairy-sticky; often common on forest floors; 1,000–3,000 m. Widespread in tropical Africa; also in Madagascar, India, and Malaysia.

Source. Dowsett-Lemaire (1985: 319); *Flora zambesiaca* 3(6): 6 (2000).

Malawi. Nyika Plateau, N.E. of Mwanda Mountain 2000, *Willis & Luhanga* 172 (PRE); Runyina River, 2000, *Phiri* 3896 (UZL).

Zambia. Nyika Plateau, without locality, *Verboom* 635 (K); Chowo Forest, 2000, *Phiri* 4012 (UZL).

Desmodium salicifolium* (Poir.) DC. var. *salicifolium

Erect, more or less woody shrub, 0.9–3.6 m tall; leaves 3-foliolate, leaflets 30–175 × 10–65 mm, ovate lanceolate to oblong-elliptic, hairless above, hairy below; flowers in a long terminal or axillary raceme, pinkish white to white or greenish yellow; pods 30–45 mm long, with 3–7 segments, finely hairy; in miombo woodland, often near rivers or wet areas; 480–1,680 m. Widespread in tropical Africa; also on Madagascar and the Mascarenes.

Dolichos kilimandscharicus* Taub. subsp. *kilimandscharicus

Erect perennial herb 0.25–1.2 m tall; from a massive woody rootstock, flowering precociously; leaves 3(4)-foliolate, silvery-velvety; flowers purple or white, large; pods straight, 40–90 mm long, densely hairy; in various types of grassland and woodland; 900–2,700 m. Zimbabwe to Angola and Ethiopia.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

***Dolichos sericeus* E.Mey. subsp. *sericeus* ✧**

Rhynchosia sphaerocephala Baker [Nyika, *Whyte* 275 (K, holo.)]

Prostrate or climbing perennial herb to 2 m long, stems hairy; leaves 3-foliolate, hairy; flowers pink, purple or bluish; pods flat, more or less curved, hairy or not; in forest and secondary scrub; 1,170–2,550 m. South Africa (KwaZulu-Natal) to Cameroon and Ethiopia.

Source. Brummitt (1973: 64); *Flora zambesiaca* 3(5): 95 (2000).

Malawi. Nyika Plateau, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Synge* 134 (K, MAL).

Zambia. Nyika Plateau, without locality, *Verboom* 634 (K, SRGH).

***Dolichos trinervatus* Baker**

Erect perennial herb to 0.8 m tall, stems arising from a woody rootstock; leaflets 3, paler below, subglabrous to silvery pubescent; flowers mauve-purple; pods to 40 mm long, hairy; miombo woodland; 450–2,100 m. Zimbabwe to Angola and S. Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

***Droogmansia pteropus* (Baker) De Wild. var. *pteropus* (Schindl.) Verdc.**

Droogmansia whytei Schindl.

Perennial herb or shrub 0.6–2.5 m tall, several shoots from a woody rootstock; leaves unmistakable, 1-foliolate, but the petiole winged so much as to appear as a double leaf; flowers on more or less unbranched inflorescences, white or yellow, veins red or purple; pods of 1–5 segments, yellowish hairy; in dry grassland and various woodland types; 880–2,250 m. Mozambique, Malawi, Zambia, D.R.C., Zimbabwe, and Tanzania. Merges with var. *whytei* on the Nyika.

Source. *Flora zambesiaca* 3(6): 29 (2000).

Malawi. Nyika Plateau, 3.6 km from Zambian Rest House, 7,500', 1967, *Richards* 22530 (K).

***Droogmansia pteropus* (Baker) De Wild. var. *whytei* (Schindl.) Verdc. ✧**

Droogmansia whytei Schindl.

Differs from *D. pteropus* var. *pteropus* in having branched inflorescences.

Source. *Flora zambesiaca* 6(3): 31 (2000).

Malawi. Nyika Plateau, 1967, *Pawek* 1367 (SRGH). [Type from Nyika (*Whyte* 194 in K)].

Zambia. Nyika Plateau, 1956, *Benson* 169 (BM).

***Dumasia villosa* DC. var. *villosa* ✧**

Climbing perennial herb with slender stems covered with reddish hairs; leaves 3-foliolate, leaflets ovate-oblong, apex rounded; flowers yellow, in racemes; pods linear, velvety, seeds black; in forest and scrub; 1,350–2,550 m. South Africa to Ethiopia, but rare in Malawi. Also in Asia and Madagascar.

Source. Brummitt 64 (1973); *Flora zambesiaca* 3(5): 58 (2000).

Malawi. Nyika Plateau, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Synge* 131 (K, SRGH); Juniper Forest Reserve, 2000, *Chikuni* 514 (MAL).

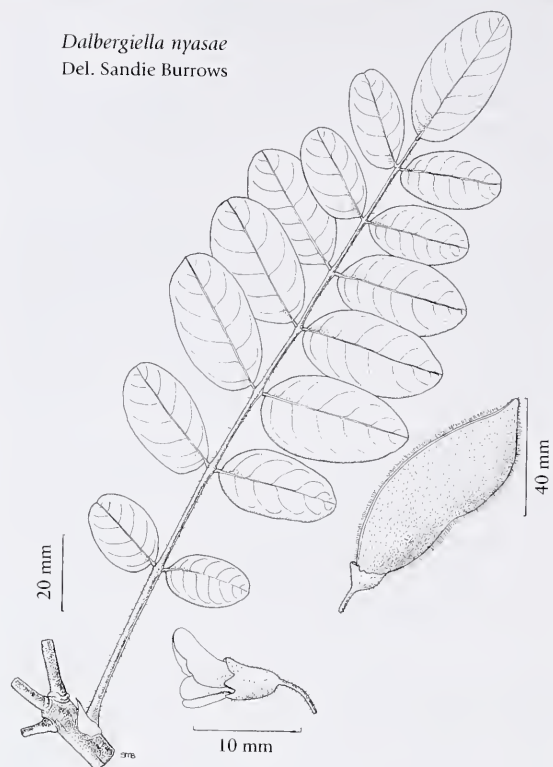
***Eriosema affine* De Wild.**

Tumbuka: mabutizi

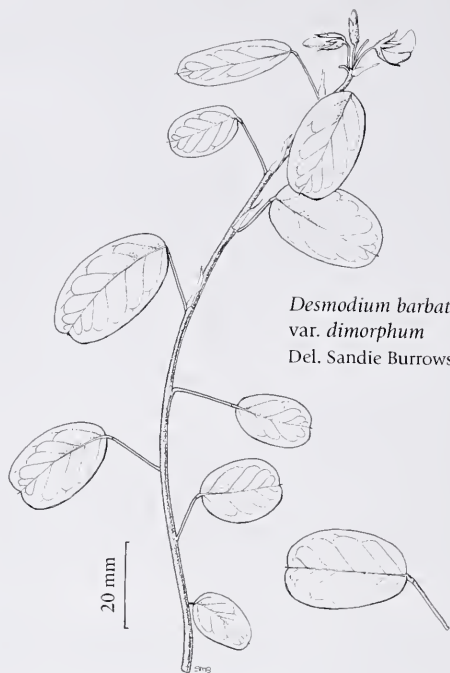
Erect subshrub 0.8–1.8 m tall, branches blackish, ridged; leaflets 3, elliptic-oblong to obovate-oblong, silvery-hairy beneath; inflorescence axillary, paniculate, flowers reddish brown outside; pods 18–30 mm long, densely silvery-hairy; in miombo woodland or grassland; 710–1,620 m. Zimbabwe to Angola and Tanzania.

Malawi. Nyika Plateau, *Protea* grassland on Nyika escarpment, 5,500–6,500', 1953, *Chapman* 117 (FHO); without locality, collector unknown (Mill 1979).

Dalbergiella nyasae
Del. Sandie Burrows



Desmodium barbatum
var. *dimorphum*
Del. Sandie Burrows



Desmodium repandum
Del. Sandie Burrows



Dolichos sericeus subsp. *sericeus*
Del. Sandie Burrows



Eriosema buchiense Hutch. & Dalz.

Erect pyrophyte with more or less unbranched dark more or less hairless stems; leaflets 1–3, elliptic, 18–60 mm, glandular, hairless; flowers in axillary racemes, yellow, ?scented; pods 11–16 mm, sparsely hairy and glandular, seeds purple; in montane grassland; 1,350–2,100 m. Malawi, Zambia, Tanzania, D.R.C., and Nigeria.

Source. *Flora zambesiaca* 3(5): 229 (2000).

Malawi. Nyika Plateau, Fingira Rock Road, 1977, Pawek 12951 (K, MO).

Eriosema buchananii Baker f. var. **buchananii**

Perennial shrubby herb 0.1–1.5 m tall, rootstock woody, stems hairy; leaflets 3, rarely 1, round or ovate, more or less hairy; flowers in racemes, cream, white or purple and white; pods 12–14 mm long, covered with long hairs and glands; montane grassland, wooded or bracken grassland; 1,500–2,280 m. S. Africa, Zimbabwe, Malawi, and Zambia.

Source. *Flora zambesiaca* 3(5): 223 (2000).

Malawi. Nyika Plateau, Nthakati Peak, 2000, Willis, Patel & Luhanga 140 (MAL, PRE, UZL); southern circular route to Chelinda Bridge, 2000, Koekemoer 1808 (PRE).

Zambia. Nyika Plateau, in thick machito, 2,100 m, 1959, Richards 10436 (K); W. of Chowo Forest, 2000, Phiri 3923 (UZL).

No country given. Nyika Plateau, 1958, Robson 237 (UZL).

Eriosema buchananii Baker f. var. **subprostratum** Verdc. ❖

As for var. *buchananii*, but the stems prostrate, trailing over the ground. Verdcourt in *Flora zambesiaca* 3(5): 223 (2001) suggests that this (his) variety is not worthwhile upholding, but we feel that its prostrate habit is so distinctive that it warrants retention. N. Malawi and S. Tanzania.

Malawi. Nyika National Park, Nganda Peak, 1969, Pawek 2079 (K); Nganda hill slope, 2000, Winter 4071 (MAL, PRE); *ibid.*, 1977, Grosvenor & Renz 1167 (PRE, SRGH).

Eriosema burkei Harv.

Pyrophytic herb with several erect more or less unbranched hairy stems from a woody rootstock; leaflets 1–3, elliptic, hairy; flowers in axillary racemes, yellow/orange tinged pink or brown; pods 11–15 mm long, orbicular-oblong, apiculate, set with long reddish hairs and glands; seasonally burnt grassland; 1,500–1,815 m. South Africa to Angola, D.R.C., and Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Eriosema chrysadenium Taub. var. **chrysadenium**

Erect perennial herb from a tuberous rootstock, stems to ca 300 mm tall, with yellowish hairs; leaves simple, ovate-oblong, cordate, hairy throughout; inflorescence terminal or axillary, flowers with standard purple or deep brown, wings and keel white to yellow; pods 10–13 mm long, shortly hairy; in grassland, *Protea* scrub or damp areas among rocks, 1,470–2,340 m. Zimbabwe to Angola, Cameroon, and Uganda.

Source. *Flora zambesiaca* 3(5): 236 (2001).

Malawi. Nyika National Park, Jalawe Viewpoint, 2000, Koekemoer 1861 (PRE).

Eriosema ellipticum Baker subsp. **ellipticum**

Chichewa: njadza; *Tumbuka:* njadza

Erect shrub 1.2–3 m tall, branches blackish; leaflets mostly 1, elliptic to oblong-elliptic, hairy, silvery or grey beneath; inflorescence terminal panicle, flowers yellow inside, brown outside; pod 20–30 mm long, silvery-hairy; in various types of woodland, wooded grassland, in rocky places; 600–2,340 m. Zimbabwe to Angola and Tanzania.

Source. Brummitt (1973: 64); *Flora zambesiaca* 3(5): 215 (2001).

Malawi. Nyika Plateau, head of Mondwe Valley, 1972, Brummitt & Synge 239 (K); Nchenachena Spur, 1946, Brass 17350 (K, NY); Vithintha Hill, 2000, Kasakula 261 (LMA, MAL, SRGH).

Zambia. Nyika Plateau, 4 km S.W. of Rest House, 2,150 m, 1958, Robson & Angus 241 (BM, K, LISC).

Eriosema flexuosum Staner

Completely prostrate herb with a single much-branched stem; leaves appressed to the ground, leaflets 1, ovate to round, hairy, racemes axillary;

flowers cream or yellowish, tinged brownish; pods 8–10 mm long, ovate-oblong, hairy, seeds black; in montane grassland, cultivated areas; 1,650–2,250 m. Zambia, Malawi, D.R.C., and Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Eriosema lebrunii Staner & De Craene

Eriosema schoutedenianum sensu Hepper

Decumbent perennial herb with slender hairy stems; leaflets 1, ovate to lanceolate, 30–200 mm long, hairy; racemes axillary or subterminal, flowers yellow, flushed brown; pods 6–7 mm long, with reddish hairs, scales and glands, seeds pink-brown with black spots; in wooded grassland, dry woodland; 1,650–2,400 m. Zimbabwe, Malawi, D.R.C., Nigeria, Cameroon, and S. Tanzania.

Source. *Flora zambesiaca* 3(5): 239 (2000).

Malawi. Nyika Plateau, Kasaramba–Vitumbi Road junction, 1977, Pawek 12447 (K, MAL, MO, SRGH, UC); between Nganda and Jalawe Viewpoint, 2000, Koekemoer 1853 (PRE).

Eriosema montanum Baker f.

Branched subshrub 0.2–1.5 m tall, stems hairy; leaflets 3, ovate to obovate to lanceolate, hairy; flowers in racemes, yellow, veined reddish or brown-purple; pods 10–17 mm long, elliptic to oblong, with reddish hairs and glands, seeds olive to liver-coloured with dark spots; grassland, scrub, forest margins; 900–2,520 m. Zimbabwe to Nigeria and Ethiopia.

Source. Brummitt (1973: 64); *Flora zambesiaca* 3(5): 225 (2000).

Malawi. Nyika Plateau, 8 km E. of Nganda, 1972, Brummitt, Munthali & Synge 146 (K, MAL); Luselo River, 2000, Salubeni & Mwanyambo 6802 (MAL).

Zambia. Nyika Plateau, upper slopes of Kangampande Mt. (Chowo Forest), White 2792 (FHO, K).

Eriosema nutans Schinz

Perennial herb 0.2–1.5 m tall, thick rootstock, stems densely hairy; leaflets 3, ovate, elliptic or lanceolate, 12–90 mm long, more or less hairy; flowers in racemes, white or yellow with reddish veining; pods 8–10 mm long, hairy; in grassland, forest margins, wooded grassland; 1,200–2,400 m. South Africa to Ethiopia.

Source. *Flora zambesiaca* 3(5): 223 (2000).

Malawi. Nyika Plateau, without locality, Phillips 1428 (K, MO).

Eriosema rhodesicum R.E.Fr. var. **rhodesicum**

Herb with erect unbranched stems to 300 mm tall; leaflets 1, elliptic, more or less hairless; flowers in axillary racemes, white or yellow, flushed red or brown; pods 10–13 × 9–10 mm, hairy, seeds brown, spotted; in seasonally burnt grassland, rocky hillsides; 1,620–2,400 m. Zimbabwe to Angola, Nigeria, and Ethiopia.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Eriosema shireense Baker f. var. **shireense**

Herb with 1 or few unbranched erect stems 80–400 mm tall; leaflets 1–3(4), elliptic to lanceolate, thinly hairy; flowers in axillary racemes, cream or yellowish, flushed reddish; pods 10–13 × 6.5–11 mm, with reddish hairs, seeds reddish brown; in grassland, miombo woodland on poor soils; 640–2,240 m. Zimbabwe to Angola, Cameroon, and Ethiopia.

Source. Mill (1979); *Flora zambesiaca* 3(5): 233 (2000).

Malawi. Nyika Plateau, Chelinda Bridge, 1977, Pawek 12250 (K).

Eriosema ukingense Harms

Erect pyrophytic herb, stems more or less unbranched, hairy, 150–350 mm tall, leaflets 3, narrowly elliptic to linear-lanceolate, silvery beneath; flowers in racemes, yellow or cream inside, pink or brown outside; pods 11 × 6–8 mm, hairy and glandular; in seasonally burnt montane grassland; 2,100–2,600 m. Nyika Plateau (Malawi and Zambia) and S. Tanzania.

Source. *Flora zambesiaca* 3(5): 224 (2000).

Malawi. Nyika Plateau, Lake Kaulime, 1958, Robson & Angus 294 (BM, K, LISC); Kasaramba Road, 8,000', 1974, Pawek 7868 (K, MAL, MO, SRGH, UC).

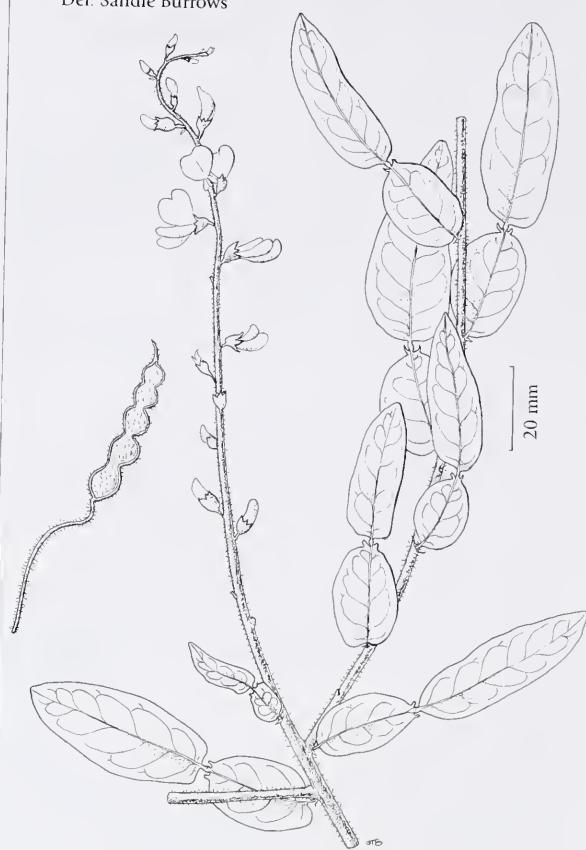
Zambia. Nyika Plateau, without locality, 1962, Fanshawe 7277 (K, NDO).

Eriosema youngii Baker f. var. **youngii**

Erect or decumbent herb with 1 stems, sparsely branched, trailing, slender,

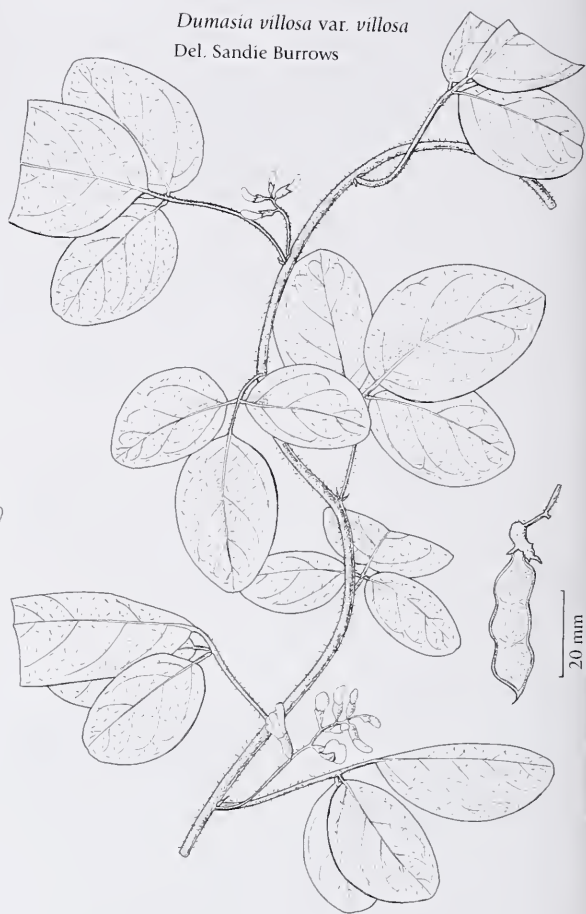
Droogmansia pteropus var. *whytei*

Del. Sandie Burrows



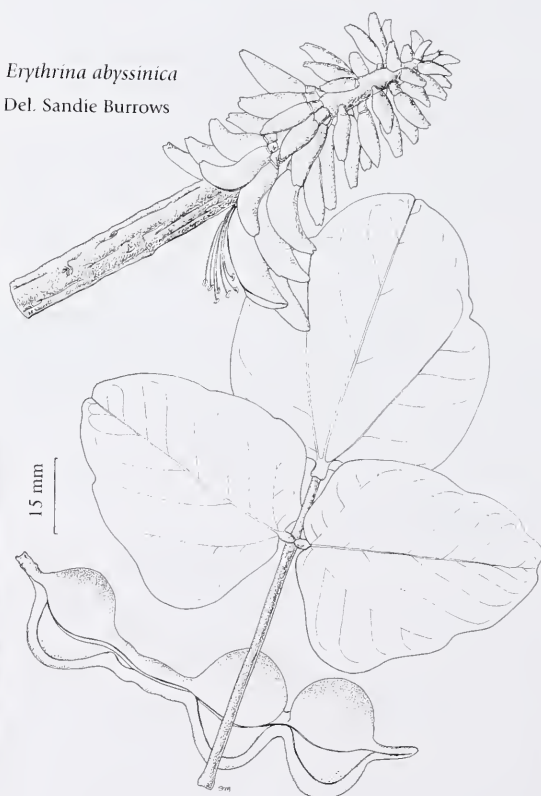
Dumasia villosa var. *villosa*

Del. Sandie Burrows



Erythrina abyssinica

Del. Sandie Burrows



Eriosema buchananii var. *subprostratum*

Del. Sandie Burrows



leaflets 1, linear to narrowly elliptic, sparsely hairy; flowers axillary, yellow inside, reddish brown outside; pods 9–10 × 5 mm, with reddish hairs, seeds brown, dark-spotted; in marshy grassland, wooded grassland; 1,200–1,650 m. Mali, Nigeria, Angola, to Tanzania, Zambia, and Malawi.

Malawi. Nyika Plateau, without locality, collector unknown (Patel 1999).

Erythrina abyssinica Lam. ex DC. ❖❖

Erythrina tomentosa R.Br. ex A.Rich.

muale

Deciduous tree to 15 m tall with rounded crown, bark rough, corky, branchlets with stout curved prickles; leaves 3-foliate, leaflets ovate, stiff, apex rounded, velvety; flowers bright red, in dense erect racemes; pods 1- to 10-seeded, constricted between seeds, seeds red and black; in wooded grassland, rocky hills, and miombo woodland; 2,100–2,100 m. Zimbabwe to Ethiopia.

Source. Brummitt (1973: 64).

Malawi. Nyika Plateau, Sawi Valley, 1972, *Synge* 421 (K, MAL).

Zambia. Nyika National Park, western part of Park, 2000, *Phiri* 3960 (UZL).

Flemingia grahamiana Wight & Arn. ❖

Moghania rhodocarpa (Baker) Hauman; *Humularia grabamiana* (Wight & Arn.) Kuntze

Erect herb to more or less woody shrublet to 2 m tall, stems silky hairy at first; leaves 3-foliate, hairy to velvety; flowers in short axillary racemes, greenish or yellowish white; pods oblong, inflated, 9–12 mm long; in various types of woodland, submontane grassland; 480–1,800 m. Widespread in tropical Africa.

Malawi. Nyika National Park, without locality or collector (Patel 1999).

Humularia apiculata (De Wild.) P.A.Duvign. ❖

Humularia bakeriana (De Wild.) P.A.Duvign.; *Humularia luentensis* (De Wild.) P.A.Duvign.

Erect subshrub 0.3–2 m tall, stems scabrid or glabrous, erect from a woody rootstock; leaves 4- to 8-foliate, rounded, hairless; flowers yellow-orange, pod a 1-segment kettle drum-shaped; in miombo woodland and montane grassland; 900–2,100 m. Zambia, N. Malawi, and D.R.C.

Source. Brummitt (1973: 65); *Flora zambesiaca* 3(6): 149 (2000).

Malawi. Nyika Plateau, 8 km N.W. of Muzengapakweru, 1972, *Synge* 452 (K).

Humularia decampsii (De Wild. & T.Durand) P.A.Duvign. var. **abercornensis** P.A.Duvign.

Humularia decampsii var. *nyassica* P.A.Duvign.

Low shrub 0.4–1.5 m tall, stems densely scabrid; leaves 4- to 8-foliate, hairy, at least below, margins finely toothed; flowers yellow, pod 1-segmented kettle drum-shaped, hairless; in miombo woodland, often in rocky places; 480–1,800 m. Known only from N. Zambia and Malawi.

Source. Patel (1999).

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Humularia drepanocephala (Baker) P.A.Duvign. var. **drepanocephala**

Geissaspis drepanocephala Baker

Erect herb 200–400 mm tall, with tufted woody stems, densely hairy, rootstock massive; leaves 2-foliate, leaflets subsessile, obcordate, stipules large, 1–2.8 mm long, obovate, glabrous; flowers cream to orange-yellow; pods semicircular, glabrous; in grassland, miombo, and *Uapaca* woodland, 930–2,100 m. Malawi, Zambia, D.R.C., and Tanzania. Both var. *humblei* and var. *forcipiformis* occur in northern Malawi and could well also occur on Nyika.

Source. *Flora zambesiaca* 3(6): 146 (2000).

Malawi. Nyika Plateau, without precise locality, 1896, Whyte s.n. (K, syn.); Vintintha Hill slopes, 2000, *Salubeni* & *Mwanyambo* 6805 (MAL).

Indigofera antunesiana Harms

Stout erect annual stems to 0.6 m, arising from a perennial woody base; lower leaves simple, upper leaves to 11-foliate, scabrid above with short stiff hairs; pods cylindrical, spirally-curved, ca 40 mm long, more or less warty and hairy; in miombo woodland. Zimbabwe to Angola and Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Indigofera astragalina DC.

Erect or spreading annual to 1.5 m; leaflets mostly 9–11, pilose on both surfaces; pods more or less tetragonal, 12–20 mm long, white-hairy, up to 6-seeded; a weed of cultivation and in over-grazed grassland; 250–1,800 m. Widespread in Africa; also in India and S.E. Asia.

Source. Patel (1999).

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Indigofera atriceps Hook.f. subsp. **atriceps**

Coarsely branching herb to 2 m, all parts hairy; leaves with 7–11 leaflets, 2-branched hairs appressed, stipules subulate; pod straight, 10 mm long, hairy, 4- to 6-seeded; in secondary scrub and margins of evergreen forest, 1,000–3,000 m. Malawi to W. Africa and Ethiopia.

Source. Dowsett-Lemaire (1985: 335).

Malawi. Nyika Plateau, Makhanga, 2000, *Salubeni* & *Mwanyambo* 6753 (MAL); South Circular Route, 2000, *Koekemoer* 1837 (PRE).

Indigofera dendroides Jacq.

Erect annual, slightly branched, to 1.3 m; leaflets 11–27, sparsely hairy throughout; pods more or less tetragonal in section, 8–12 seeded; grassland and marshy places, also in cultivated areas, 0–1,500 m. Zimbabwe to W. Africa and Sudan.

Source. Patel (1999).

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Indigofera emarginella Steud. ex A.Rich. ?var.

Soft woody shrub to 2 m, stems ribbed and minutely hairy, leaflets 7–11, hairy on both surfaces; pods straight, pointed, 15–22 mm long, brown hairy, 4–5 seeded; forest margins, miombo woodland and grassland; 500–2,250 m. Zimbabwe to W. Africa and Ethiopia.

Source. University of Zambia Herbarium (UZL).

No country given. Nyika Plateau, 1967, *Richards* 14451 (UZL).

Indigofera fulvopilosa Brenan

Erect or prostrate branching annual or short-lived perennial to 0.7 m tall, all covered in brown hairs; leaflets 1–5, elliptic-oblong, to 23 mm long; flowers in 5- to 20-flowered racemes; pods tetragonal-cylindrical, 12–20 mm long, hairy; along roadsides, in grassland, and forest margins; 500–2,100 m. Zimbabwe to Uganda and Sierra Leone.

Malawi. Nyika National Park, Mpopoti Peak, 2000, *Willis* & *Luhanga* 65 (MAL, PRE, UZL).

Indigofera fuscetosa Baker

Very similar to *I. trachyphylla*, but the leaves wider (to 20 mm) and the pod hairs more or less black; in upland open or wooded grassland; 1,400–2,100 m. N. Malawi, D.R.C. (Katanga) and S. Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Patel 1999).

Indigofera garckeana Vatke

Indigofera tetragona Lebrun & Taton; *Indigofera rhynchocarpa* Welw. ex Baker var. *quadrangularis* Berhaut

Soft woody shrub to 3 m, stems 3–4-angled or winged, hairy; leaflets usually 5–9, hairy; pods upturned, pointed, 50–60 mm long, hairy, 13–17 seeded; in wooded grassland and deciduous woodland, 500–2,200 m. Zimbabwe to W. Africa and Ethiopia.

Source. Patel (1999).

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Indigofera hedyantha Eckl. & Zeyh. ❖

Indigofera goetzei Harms

Stiffly erect woody herb to 1.5 m tall; leaflets 7–11, glabrous above, sparsely hairy below; pods cylindrical, to 40 mm long, ca 8 seeded; in montane grassland, 1,400–2,600 m. South Africa (E. Cape) to Kenya.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979, Patel 1999); Vintintha Hill, 2000, *Mwanyambo* 570 (MAL).

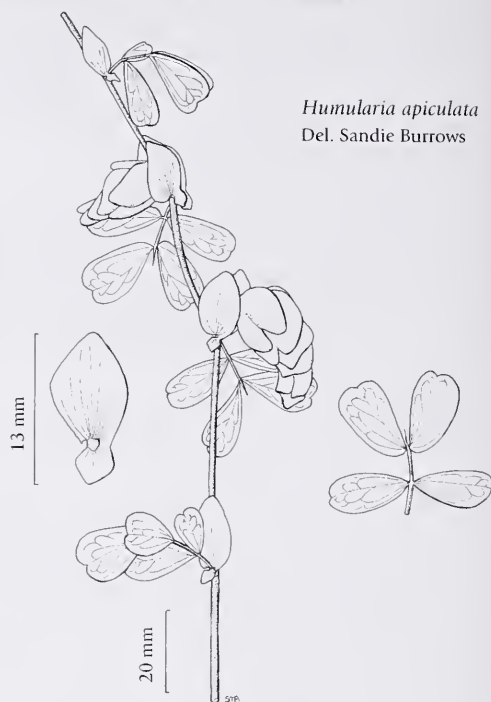
Zambia. Nyika National Park, Rest House area, 2000, *Phiri* 3833 (UZL).

No country given. Nyika Plateau, 1961, *Richards* 22667 (UZL).

Flemingia grahamiana
Del. Sandie Burrows



Humularia apiculata
Del. Sandie Burrows



Kotschyia thymodora subsp. *septentrionalis*
Del. Sandie Burrows



Indigofera hedyantha
Del. Sandie Burrows

Indigofera hiliaris Eckl. & Zeyh. var. **microscypha** (Baker) Gillett*Indigofera nyikense* Baker; *Indigofera microscypha* Baker

Much-branched perennial to 400 mm tall, all parts set with longish 2-branched hairs; leaflets in 3-foliolate or with 7 leaflets, oblong to narrowly elliptic, to 15 x 5 mm; flowers in a raceme of 5–10 white flowers; pods cylindrical, 10–14 mm long, with densely spreading hairs; in montane grassland; 1,000–2,200 m. This variety is endemic to the Nyika Plateau.

Source. Brummitt (1973: 65).

Malawi. Nyika Plateau, Sawi Valley, 1972, *Synge* 438 (K).

Indigofera homblei Baker f. & Martin subsp. **homblei**

Soft shrub to 2.5 m, stems 3-angled or narrowly winged; leaves with 11–17 leaflets, sparsely hairy; pods to 45 mm long, cylindrical, 6–8 seeded; in upland grassland and forest margins, 1,200–2,400 m. South Africa (Northern Province) to D.R.C. and S. Tanzania.

Malawi. Nyika Plateau, without locality (?northern end), collector unknown (Patel 1999).

Indigofera longibarbata Engl.

Sub-woody annual to 1.3 m, stems reddish, pilose; leaflets 9–13, white-pilose on both sides; pods to 8 mm long, black-pilose, 3-seeded; in montane grassland and forest margins; 1,300–2,550 m. South Africa to Nigeria and Ethiopia.

Malawi. Nyika Plateau, without locality (?northern end), collector unknown (Patel 1999); Wovwe River catchment area, 2000, *Willis* 163 (MAL, PRE).

Indigofera lyallii Baker f. ?subsp. **nyassica** Gillett

Shrub or small tree 2–6 m tall; flowers crimson; in secondary growth. N. Mozambique and Malawi (only listed for Mt. Mulanje and Gurué in Gillett (1958)).

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979); Chisanga Falls slope, 2000, *Mwanyambo* 491 (MAL).

Indigofera milne-redheadii Gillett

Erect slender annual to 300 mm tall; leaflets 3–17, variously hairy on both sides, stipules linear; pods 10–15 mm long, straight, densely covered with short appressed hairs, 6–9 seeded; on steep, stony or sandy places in miombo woodland; 900–1,100 m. Malawi, Zambia, Tanzania, and D.R.C. (Katanga).

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Indigofera mimosoides Baker var. **mimosoides**

Annual herb, erect or not, to 1 m tall, stems reddish with white hairs; leaflets 3–11, elliptic, rarely more than twice as long as broad, hairy below, but not on margins; pods straight, up to 10 mm long, hairy, 3–5 seeded; in montane grassland; 1,150–2,300 m. Mozambique and Zimbabwe to Angola, Cameroon, and Ethiopia.

Malawi. Nyika National Park, Dembo River, E. of bridge, 2000, *Willis* 27 (MAL, PRE, UZL); Lake Kaulime, 2000, *Mwanyambo* 498 (MAL); road to Dembo Bridge, 2000, *Kasakula* 220 (LMA, MAL, SRGH).

No country given. Nyika Plateau, 1961, *Richards* 14378 (UZL).

Indigofera patula Baker (hairy form)*Indigofera hiliaris* sensu Gillett (1958: 61)

Perennial herb branching basally, stems hairy and glandular; leaflets 7, oblanceolate, mucronate, densely white-hairy; flowers in axillary racemes, red; pods sessile, cylindrical. Ecological information lacking. Described from Malawi, related to *I. mimosoides* var. *viscidior*. Possibly a Nyika endemic.

Source. Baker (1897: 255); *F.T.E.A. Papilionoidae* (1): 264 (1971).

Malawi. Nyika Plateau, 6,000'–7,000', 1896, *Whyte* s.n. (K, holo.); without locality (?northern end), collector unknown (Patel 1999).

Indigofera peltata Gillett

Perennial with woody rootstock and erect more or less glabrous annual shoots to 300 mm tall; leaves simple (1-foliolate), peltate, ovate, to 140 x 100 mm; pods unknown; in fire-prone deciduous woodland on hillsides. Malawi, S. Tanzania, and D.R.C. (Katanga). Probably rare. The only known leguminous plant with peltate leaves.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Indigofera roseo-caerulea Baker f.

Soft woody shrub to 3 m, stems ribbed; leaflets 11–21, to 25 x 14 mm, hairy on both sides; pods ca 40 mm long, ca 8 seeded; in montane secondary scrub, 1,500–3,000 m. Nyika to E. D.R.C. and Ethiopia. Nyika is the southern extremity of this species.

Malawi. Nyika Plateau, without locality (?northern end), collector unknown (Patel 1999); Mbuzinandi, 2000, *Salubeni & Mwanyambo* 6819 (MAL).

Zambia. Nyika National Park, western part of Park, 2000, *Phiri* 3963 (UZL).

Indigofera subulifera Baker

Annual to 0.5 m tall, stems reddish, finely hairy; leaflets (7)9–11, elliptic, apiculate; inflorescence in hairy racemes, flowers pink, but set with silky white hairs; pods ca 5 mm long x 1.5 mm wide, 2-seeded, finely hairy; on rocky soils in deciduous woodland; ca 900 m. Zimbabwe to Angola, D.R.C., and Malawi. Very closely allied to *I. mimosoides* var. *brachycarpa*.

Malawi. Nyika National Park, Fingira Rock, 2000, *Willis & Luhanga* 216 (MAL, PRE).

Indigofera thomsonii Baker f.

Perennial herb with woody rootstock and hairy stems; leaves 1-foliolate below (to 80 x 10 mm), 3–5-foliolate above (leaflets to 50 x 4 mm); pods to 25 mm long, hairy, 7–10 seeded; in grassland, 1,200–2,100 m. Malawi, Zambia, D.R.C. (Katanga) and S. Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979); Vithiniza Hill slopes, 2000, *Salubeni & Mwanyambo* 6805 (MAL).

Indigofera trachyphylla Benth. ex Oliv.*Indigofera johnstonii* Baker f.

Annual herb to 0.5 m high, stems with white hairs; leaves simple, linear-lanceolate, to 15 x 7 mm, sparsely hairy on both sides; pod 4–6 mm long, with brown and white hairs, with ca 4 seeds; in miombo and other woodlands; 850–1,750 m. Malawi, Mozambique, N.E. Zambia, D.R.C. (Katanga) and S. Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Kotschyia aeschynomeneoides (Welw. ex Baker) Dewit & P.A.Duvign.*Smithia sphaerocephala* Baker; *Smithia ruwenzoriensis* Baker f.

Erect aromatic shrub 0.5–3 m tall, stems covered with sticky hairs; leaves 16- to 34-foliolate, subglabrous; flowers white to blue-violet; pods of 1–2 segments; in grassland, thicket/scrub, forest margins, miombo woodland; 1,350–2,550 m. Malawi to Angola, D.R.C., and Kenya.

Source. *Flora zambesiaca* 3(6): 128 (2000).

Malawi. Nyika Plateau, without locality, 1953, *Chapman* 119 (FHO, K); Chelinda Bridge, 2000, *Salubeni & Mwanyambo* 6772 (MAL).

Zambia. Nyika Plateau, without locality, 1962, *Verboom* 628 (K); Kangampande Mt. (Chowo Forest), 7,000', 1952, *White* 2574 (FHO).

Kotschyia africana Endl. var. **latifoliola** Verdc.*Kotschyia uguenensis* sensu White (1962: 158)

Erect shrub 1–5 m tall, stems with glandular hairs; leaves, 20- to 42-foliolate, hairy or not; flowers orange-yellow, veins red-purple; pods with 4–9 segments, hairy; in fringing forest, on seepage zones; 1,155–2,160 m. Confined to the Nyika Plateau, but perhaps only a variant of the Tanzanian/Mozambican *K. uguenensis* (Taub.) F.White.

Source. *Flora zambesiaca* 3(6): 120 (2000).

Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 323).

Zambia. Nyika Plateau, near top of Kangampande Mt. (Chowo Forest), *White* 2557 (K, holo., FHO); without locality, 1962, *Verboom* 631 (K).

Kotschyia carsonii (Baker) Dewit & P.A.Duvign. subsp. **carsonii**

Erect shrub to 2 m tall, stems glandular-sticky, with golden hairs; leaves 14- to 26-foliolate; flowers orange-yellow; pods of 2–3 segments, hairy; in *Brachystegia* woodland, bush land, moorland, peaty swamps, and forest edges; 1,000–1,800 m. Mozambique to Angola, D.R.C., and S. Tanzania.

Source. *Flora zambesiaca* 3(6): 125 (2000).

Zambia. Nyika Plateau, without locality, 1962, Verboom 637 (K).

Kotschya eurycalyx (Harms) de Wit & P.A. DuVign. subsp. **venulosa** Verdc.

Erect or spreading herb 120–500 mm tall, stems arising from a woody rootstock, young stems bristly, later glabrous; leaves 5- to 10-foliolate, leaflets more or less falcate, subglabrous; flowers bright blue; pods of 1–2 segments, densely hairy; in montane grassland with *Protea* and *Dissotis*; 1,470–1,900 m. Malawi, Zambia, and S. Tanzania

Source. *Flora zambesiaca* 3(6): 136 (2000).

Malawi. Nyika Plateau, Kafwimba Forest, 1973, Pawek 6580 (K).

Kotschya recurvifolia (Taub.) F. White subsp. **recurvifolia** ●
Smithia recurvifolia Taub.

Erect bushy aromatic sticky shrub to 4 m tall, stems with yellowish or whitish bristly hairs; leaves congested, 8- to 18-foliolate, leaflets oblong-falcate, distinctly curved at the apex; flowers yellow or whitish; pods of 1–3 segments, hairy; montane grassland, forest margins, secondary scrub; 1,800–3,000 m. Tanzania, Malawi, and Zambia.

Source. Brummitt (1973: 65); *Flora zambesiaca* 3(6): 122 (2000).

Malawi. Nyika Plateau, N.W. foot of Nganda, 1972, Brummitt & Syngé 14 (EA, FHO, K, MAL, PRE, SRGH); near top of Nganda, Phillips 1686 (K, MO).

Zambia. Nyika Plateau, without locality, 1962, Verboom 638 (K); western part of Park, 2000, Phiri 3970 (UZL).

Kotschya thymodora (Baker f.) Wild subsp. **septentrionalis** Verdc. ✧

Smithia thymodora Baker f.

Very closely related to *K. uguenensis* (below), but has a calyx 5.5–10 mm long (cf. 1.2–1.65 mm long in *K. uguenensis*); on forest margins, scrub, rank grassland, often in marshy areas; 1,500–3,200 m. Northernmost Zambia/Malawi border and Tanzania.

Source. *Flora zambesiaca* 3(6): 122 (2000).

Malawi. Nyika Plateau, 10 km from Kasaramba View point, Brummitt 11873 (K).

Kotschya uguenensis (Taub.) F. White

Smithia uguenensis Taub.

Shrub to 400 mm tall, or small tree of 5 m, stems covered in yellowish sticky hairs, ?unpleasant smell; leaves 30- to 44-foliolate; flowers yellow; pods of 3–4 segments, hairy; on forest margins, scrub, and montane grassland; 1,000–2,010 m. N. Malawi, N. Zambia, N. Mozambique, and Tanzania. This specimen quite likely represents the same taxon as *K. africana* var. *latifolia* Verdc. (see above), but we have followed Verdcourt in *Flora zambesiaca* 3(6): 120 (2000) in maintaining them as separate entities.

Source. Brummitt (1973: 65).

Malawi. Nyika Plateau, 8 km E. of Nganda, 1972, Brummitt & Syngé 136 (K, MAL, SRGH); Juniper Forest Reserve, 2,000 m, 1982, Chapman 6328 (FHO).

Zambia. Nyika Plateau, Kangampande Mt. (Chowo Forest), 7,000', 1952, White 2557 (FHO).

Lablab purpureus (L.) Sweet subsp. **uncinatus** Verdc. var. **uncinatus** ✧

Lablab niger sensu Mill (1979)

wild hyacinth bean; *Chicheva*: nkhusa

Climbing perennial, rarely erect, 1–5 m, stems hairy or not; leaves 3-foliolate, leaflets ovate-triangular, hairy or not; flowers crimson, purple or white; pods 2–5-seeded, variable; in grassland, scrub, old cultivation; 0–2,400 m. South Africa (Eastern Cape) and throughout tropical Africa. Sometimes cultivated.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Lathyrus hygrophilus Taub. ?var. ✧

Lathyrus kilimandscharicus Taub.

Straggling or climbing herb, ?perennial; leaves 2-foliolate, linear or elliptic, petiole terminating in a simple tendrill; flowers solitary, white, pink or pur-

ple; pods linear, compressed, hairy or not; in montane grassland, forest margins, swampy places; 1,800–4,100 m. Malawi to Ethiopia.

Source. Brummitt (1973: 65).

Malawi. Nyika Plateau, E. foot of Nganda, 1972, Brummitt & Syngé 98 (K).

Lotononis stolzii Harms ✧

Perennial herb with prostrate branched stems 400 mm long; leaflets 3, obovate, hairy; inflorescence at the end of short lateral branches, flowers yellow, hairy; pods unknown; in montane grassland, in bare or stony places; 1,800–2,000 m. S. Tanzania and Nyika Plateau.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Lotus discolor E. Mey. subsp. **discolor** ✧

Rootstock woody, stems erect or straggling to 700 mm long, hairy; leaves pinnate with 5 pairs of leaflets, leaflets cuneate-oblongeolate, hairy; inflorescence an umbel of 2–7 flowers, peduncle mostly more than 40 mm long; flowers white with pink markings; pods straight, ca 25 mm long, 8-seeded; in montane grassland, 1,200–2,250 m. South Africa to Nigeria and Ethiopia.

Source. Brummitt (1973: 65).

Malawi. Nyika Plateau, E. foot of Nganda, 1972, Brummitt & Syngé 101 (EA, K, MAL, SRGH).

Lotus goetzei Harms

Rootstock woody, massive, stems, prostrate, ascending or bushy, to ca 1 m tall, hairy, leaflets 3- to 5-foliolate, hairy; inflorescence a 1- to 6-flowered umbel, peduncle usually less than 40 mm long, flowers white with reddish markings; pods up to 25 mm long, 16-seeded or less; in montane forest, scrub, and forest margins, 1,500–3,700 m. Malawi to Ethiopia. Nyika is the southern limit of this species.

Source. Brummitt (1973: 65).

Malawi. Nyika Plateau, 2 km W. of Muzengapakweru, 1972, Syngé 337 (EA, K, MAL, PRE, SRGH).

Macrotyloma axillare (E. Mey.) Verdc. var. **macrantha** (Brenan) Verdc. ✧

Perennial herb with climbing or trailing stems; leaves pinnately 3-foliolate; flowers white to green or yellow, 20–24 mm long; pods linear-oblong, 30–80 × 6–8 mm, hairy or not; miombo woodland, grassland, regenerating forests, dambo margins, roadsides; 1,200–1,600 m. Zimbabwe, Mozambique, Zambia, and Malawi.

Source. Kirkia 17(1): 80 (1998); *Flora zambesiaca* 3(5): 118 (2000).

Malawi. Nyika Plateau, 11 km N. of entrance, 1969, Pawek 2878 (K, MAL).

Mucuna coriacea Baker ?subsp.

Climbing or trailing herb or climber to 4.5 m long; most parts covered in rusty stinging hairs; leaves 3-foliolate, leaflets elliptic to obliquely ovate, 35–90 × 30–75 mm, velvety; flowering standard maroon to blackish; pods 50–70 × 10–15 mm, curved, densely covered in stinging hairs; in miombo woodland, forest margins, thicket; up to 1,250 m. Subspecies not established.

Malawi. Nyika Plateau, without locality, collector unknown (Patel 1999).

Mucuna poggei Taub. subsp. **pesa** (De Wild.) Verdc.

Mucuna pesa De Wild.

Large liane 10–30 m tall; leaves 3-foliolate, densely grey hairy below; flowers standard greenish white to yellowish; pods 140–200 × 35–40 mm, 2- to 5-seeded, very densely set with orange-brown stinging hairs; in miombo woodland, margins of forest, reed beds; 465–1,680 m. Zimbabwe to D.R.C. and Uganda. It is highly likely that some Nyika plants are *Mucuna ferox* Verdc., a climber on margins of evergreen forest which, when viewing leaves and flowers only, is almost indistinguishable from *M. poggei* subsp. *pesa*.

Source. *Flora zambesiaca* 3(5): 16 (2000).

Malawi. Nyika Plateau, without locality, collector unknown (Patel 1999).

Mucuna stans Welw. ex Baker ✧

Chicheva: chitedze

Small erect shrub 0.9–2.4 m tall, stems erect, golden-hairy when young; leaves greyish or rusty pubescent; flowering standard very dark purple/

Lablab purpureus subsp. *uncinatus*
Del. Sandie Burrows



Lathyrus hygrophilus
Del. Sandie Burrows



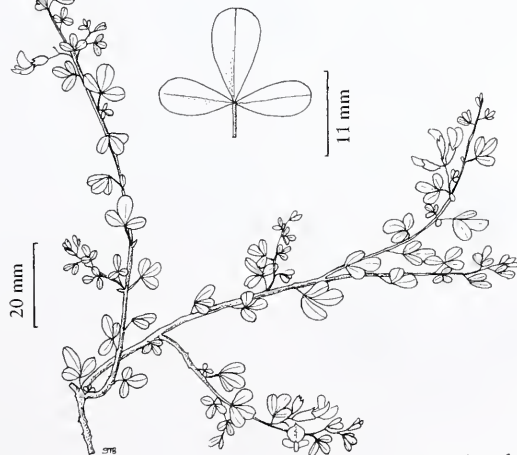
Lotus discolor subsp. *discolor*
Del. Sandie Burrows



Macrotyloma axillare var. *macrantha*
Del. Pat Halliday



Lotononis stolzii
Del. Sandie Burrows



Mucuna stans
Del. Sandie Burrows



Neonotonia wightii subsp.
petitiana var. *mearnsii*
Del. Sandie Burrows



Ormocarpum kirkii
Del. Pat Halliday



Otholobium foliosum subsp. *foliosum*
Del. Christine Grey-Wilson

blackish; pods oblong, 35–68 x 8–14 mm, densely covered in blackish to golden slightly irritant hairs; in miombo and allied woodlands, often in grassy places; 1,290–1,800 m. N. Mozambique to Nigeria and Kenya.

Source. Brummitt (1973: 65); *Flora zambesiaca* 3(5): 22 (2000).

Malawi. Nyika Plateau, S. slopes of Kawoza, 1972, *Brummitt & Syngé* 187 (K, MAL, SRGH).

Neonotonia wightii (Wight & Arn.) Lackey subsp. **petitiana** (A.Rich.) Lackey var. **mearnsii** (De Wild.) Lackey ❖

Glycine wightii (Wight & Arn.) Verdc. subsp. *petitiana* (A.Rich.) Verdc. var. *mearnsii* (De Wild.) Verdc.

Perennial climber to 4.5 m tall, woody basally, stems glabrous to reddish-hairy; leaves 3-foliolate, leaflets ovate to elliptic, densely velvety to hairless; flowers white to mauve, in racemes; pods linear, glabrous to densely hairy; in forest, secondary grassland, woodland; 1,340–2,900 m. (var. *mearnsii*): Malawi, Zambia, Tanzania, and Kenya.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Ormocarpum kirkii S.Moore ❖

Ormocarpum bibracteatum sensu J.Léonard

Shrub or small tree 2–9 m, bark rough, corky; leaves clustered on short shoots, imparipinnate; flowers in 1- to 3-flowered racemes, pinkish or purple; pods coiled within the persistent corolla; in various types of woodland or wooded grassland; 100–1,500 m. South Africa to D.R.C. and Somalia.

Malawi. Nyika Plateau, without locality, collector unknown (Patel 1999).

Otholobium foliosum (Oliv.) Stirton subsp. **foliosum** ❖

Psoralea foliosa Oliv.

Woody shrub, somewhat aromatic, to 3 m tall, stems densely hairy; leaves 3-foliolate, leaflets oblanceolate, dotted with translucent glands; flowers bluish/white, in dense terminal clusters; pods simple, oval, with prominent reticulate venation; in montane grassland and scrub; 1600–3100. South Africa to E. Zambia and Kenya.

Source. *Flora zambesiaca* 3(6): 46 (2000).

Malawi. 11.2 km N. of entrance to Nyika National Park, 1969, *Pawek 2880* (K).

Zambia. Nyika Plateau, upper slopes of Kangampane Mt. (Chow Forest), *White 2552* (FHO, K).

Pericopsis angolensis (Baker) van Meeuwen ❖

muwanga

Deciduous tree to 17 m, trunk often crooked, bark pale grey or whitish brown, somewhat flaking; leaves pinnate with 7–10 alternate leaflets; pod flat, winged, with one seed; in deciduous woodland, sometimes in miombo or wooded grassland; 900–1,650 m. Zimbabwe to Angola, D.R.C., and Tanzania. The timber is reddish, strong, and much used for carvings and furniture.

Source. Brummitt (1973: 65).

Malawi. Nyika Plateau, Chipome Valley, 1972, *Syngé* 273 (K, MAL).

Pseudarthria hookeri Wight & Arn. var. **hookeri** ❖

Erect to arching shrub 1–3 m tall from a thick rhizome, stems strongly ribbed, hairy; leaves 3-foliolate, leaflets elliptic to obovate-elliptic, rough above, hairy below; flowers reddish purple to blue or white; pods straight, 3- to 12-seeded, finely hairy; in grassland, scrub, old cultivation; sea-level to 2,000 m. South Africa to Cameroon and Ethiopia.

Malawi. Nyika Plateau, N. of Mwanda Mountain, 2000, *Willis & Luhanga 181* (MAL, PRE); without locality, collector unknown (Mill 1979).

Psophocarpus lancifolius Harms ❖

Perennial climbing herb, stems yellowish hairy; leaves 3-foliolate, leaflets obovate to elliptic, 22–110 mm long, hairy or not; flowers blue or violet-purple; pods rectangular, markedly winged, sparsely hairy; in grassland, wooded grassland, and forest margins; 1,100–2,550 m. Malawi to Nigeria and Kenya.

Malawi. Nyika Plateau, without locality, collector unknown [probably *Pawek* (Mill 1979); Mpopoti Hill, 2000, *Salubeni & Mwanyambo 6784* (MAL)].

Pterocarpus angolensis DC. ❖

mukwa, mlombwa

Large spreading deciduous tree to 20 m tall, bark rough dark grey, sap red; leaves pinnate with 5–9 pairs of leaflets plus a terminal leaflet, hairless; flowers in yellow clusters appearing before the leaves; pod unmistakable, a roundish papery disc with a central tuft of spiny hairs on each side; in various types of mixed woodland; 0–1,500 m. Widespread in southern tropical Africa. The timber is much valued for making furniture.

Malawi. Nyika National Park, without locality or collector (Patel 1999).

Rhynchosia buchananii Harms

Scrambler to 1.5 m or an erect shrub; leaves 3-foliolate, hairy; flowers yellow with brown veins; pods sticky-hairy; in miombo, *Acacia* and *Protea* woodland, and grassland; 950–1525. Zimbabwe, Mozambique, Malawi, and D.R.C. (Katanga).

Source. Brummitt (1973: 65); *Flora zambesiaca* 3(5): 185 (2000).

Malawi. Nyika Plateau, Chipome Valley, 1972, *Syngé* 220 (K).

Rhynchosia clivorum S.Moore var. **pycnantha** (Harms) Verdc.

Erect branched shrub 0.9–3 m tall, stems hairy, leaflets 3, elliptic-oblong or elliptic-ovate, 25–110 mm long, hairy, veins raised below; flowers yellow, veined brown; pods 17–20 mm long, yellow-bristly; in montane grassland with *Protea* and *Agarista* (*Agauria*) or secondary scrub; 2,100–2,550 m. Tanzania (Mbeya) to Malawi (Mt. Mulanje).

Source. Brummitt (1973: 65); *Flora zambesiaca* 3(5): 178 (2000).

Malawi. Nyika Plateau, 2 km W. of Muzengapakweru, 1972, *Syngé* 331 (K); grassland, 2,400 m, 1964, *Robinson 6247* (K).

Zambia. Nyika Plateau, 3.2 km S.W. of Rest House, 1958, *Robson & Angus 194* (BM, K).

Rhynchosia divaricate Baker

Erect plant with seasonal stems arising from a woody rootstock, stems with dense reddish hairs; leaflets 3, hairy; flowers axillary, yellowish with purple veining; pods 28–32 mm long, oblanceolate-falcate, finely hairy; in miombo and other woodland types; 100–2,100 m. Zimbabwe, Malawi, Mozambique, Zambia, D.R.C., and S. Tanzania.

Source. *Flora zambesiaca* 3(5): 189 (2000).

Malawi. Nyika Plateau, without locality, 1896, *Whyte* s.n. (K, holo.).

Rhynchosia goetzei Harms

Erect or scrambling shrub or climber, stems much branched, red-brown; leaflets 3, ovate to oblate-rhomboid, 15–48 mm long, hairy; flowers yellow, veined reddish brown; pods straw-coloured, 20–30 mm long, hairy-glandular; 600–1,500 m. Zimbabwe to Angola, D.R.C., and Tanzania.

Source. Patel (1999).

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Rhynchosia insignis (O.Hoffm.) R.E.Fr.

Sticky erect pyrophytic subshrub 140–600 mm tall, rootstock woody, stems several, hairy; leaflets 1–3, ovate to elliptic, 12–90 mm long, velvety; flowers appearing before the leaves, yellow, veined purple; pods falcate, to 26 mm long, hairy; in miombo woodland, montane grassland; 1,410–2,250 m. Zimbabwe to Angola and Tanzania.

Source. Patel (1999); *Flora zambesiaca* 3(5): 191 (2000).

Malawi. Nyika Plateau, Kafwimbi Forest, 1969, *Pawek 2885* (K).

Rhynchosia luteola (Hiern) Schumann var. **luteola**

Rhynchosia sericosemium Harms

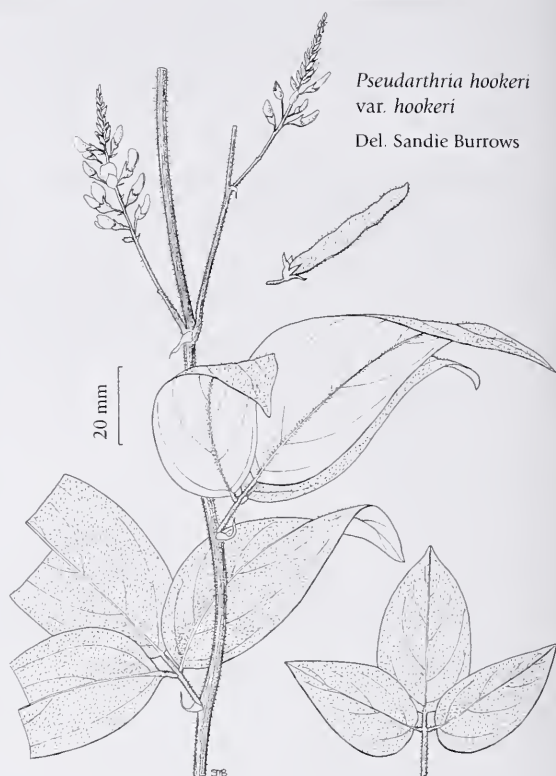
Robust sticky climber or subshrub 0.3–1 m tall, stems with yellow sticky hairs; leaflets 3, ovate to rhomboid, 20–140 mm long, hairy; flowers yellow, veined red-brown outside; pods 30–40 mm long, with long yellow bristly hairs, compressed; in evergreen forest and miombo woodland; 300–900 m. Mozambique and Zimbabwe to Tanzania and Nigeria.

Source. UZL.

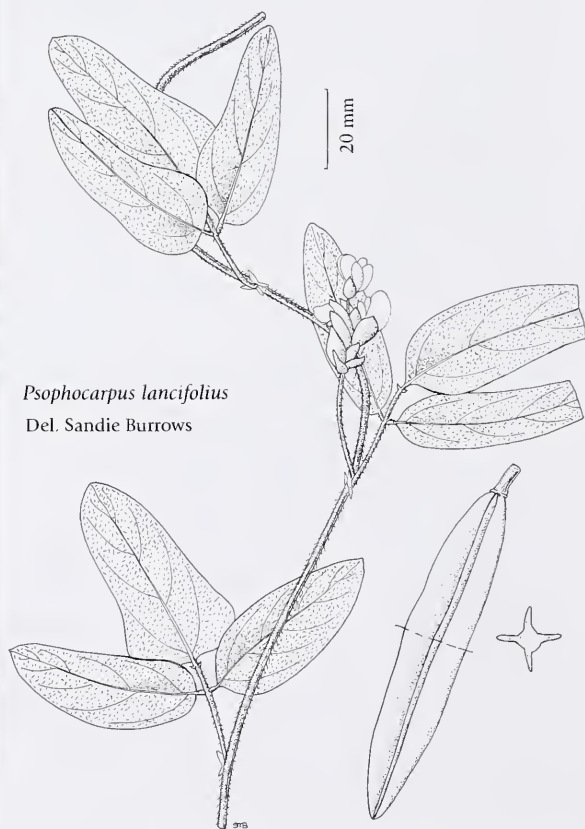
Zambia. Nyika Plateau, below Rest House on path to N. Rukuru waterfall (Chisanga Falls), 2,150 m, 1958, *Robson 411* (UZL).



Pericopsis angolensis
Del. Sandie Burrows



Pseudarthria hookeri
var. *hookeri*
Del. Sandie Burrows



Psophocarpus lancifolius
Del. Sandie Burrows



Pterocarpus angolensis
Del. Sandie Burrows

Rhynchosia minima (L.) DC. ?var. ✧

Slender climbing or prostrate, multistemmed herb, rootstock woody; leaflets 3, roundish to ovate, 9–60 mm long, hairy or not; flowers yellow; pods oblong-falcate, 6–20 mm long, hairy or not. Variety not established.

Source. Patel (1999).

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Rhynchosia nyasica Baker

Slightly sticky perennial erect herb or subshrub, stems sticky, hairy; leaflets 3, ovate, round to kidney-shaped, thinly hairy; flowers yellow, sometimes veined purple; pods 25–34 x 8–10 mm, oblong-falcate, finely hairy-glandular; in miombo woodland or wooded grassland, 900–1,670 m. Zimbabwe to Nigeria and Sudan.

Zambia. Nyika National Park, Kaperekezi Road, 2000, *Phiri 3846* (UZL).

Rhynchosia nyikensis Baker

Perennial climber to 3 m long, stems rusty-hairy, leaflets 3, ovate, 28–80 mm long, hairy; inflorescence rusty-hairy, flowers yellow inside, red-brown outside; pods ca 23 mm long, densely yellow-hairy; on forest margins, in forest or in secondary scrub; 1,350–2,220 m. Malawi, Zambia, and S. Tanzania.

Source. Dowsett-Lemaire (1985: 332); *Flora zambesiaca* 3(5): 180 (2000).

Malawi. Nyika Plateau, without precise locality, 1896, *Whyte s.n.* (K, syn.); without precise locality, *Dowsett-Lemaire 126* (herbaria not stated).

Rhynchosia procurrens (Hiern) Schumann subsp. **floribunda** (Baker) Verdc.

Rhynchosia floribunda Baker

Robust or slender climber or trailer; leaflets 3, rhomboid to obovate, 20–130 mm long; inflorescence sticky-hairy, erect; flowers orange or reddish; pods scarcely exceeding the calyx; in 'bush land'; 1,080–1,650 m. Zimbabwe, Zambia, Mozambique, Malawi, D.R.C., and S. Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Rhynchosia resinosa (A.Rich.) Baker

Robust woody scrambler 2–7 m long, or an more or less erect shrub to 1.5 m, stems reddish; leaflets 3, rhomboid to triangular, 15–75 mm long, hairy; inflorescence glandular-sticky; flowers yellow, flushed red-purple; pods straw-coloured, whitish hairy; in miombo woodland, riverine forest, thicket, wooded grassland; 500–2,250 m. South Africa to W. Africa and Ethiopia.

Malawi. Nyika Plateau, without locality, collector unknown (Patel 1999).

Sesbania macrantha Welw. ex Phill. & Hutch. var. **macrantha** ✧

Woody herb or small tree 1–6 m, stems, leaf-rachis and peduncles usually spiny; leaves pinnate with up to 50 pairs of leaflets; flowers golden yellow; pods curved, to 300 mm long; in swamps, on stream and lake margins, 1,100–2,000 m. South Africa to W. Africa and Kenya.

Source. Brummitt (1973: 66).

Malawi. Nyika Plateau, N.E. foot of Nganda, 1972, *Brummitt & Sygne 121* (K, MAL, SRGH).

Sesbania sesban (L.) Merrill ?subsp. **nubica** ?var.

Small short-lived tree 1–7 m tall, stems subglabrous; leaves pinnate, leaflets in 10–25 pairs; flowers yellow, sometimes purple-streaked; pods more or less straight, 200–300 mm long; usually along streams or along lake margins; 100–2,200 m. South Africa to Lake Chad and Somalia. Subspecific identity not established.

Source. Brummitt (1973: 66).

Malawi. Nyika Plateau, Chipome Valley, 1972, *Sygne 274* (K, MAL, SRGH).

Sesbania tetraptera Hochst.

Erect annual herb 1–2 m tall, stems glabrous when old, sometimes spiny; leaflets in 20–30 pairs, glabrous; flowers yellow; pods slightly curved, 120–160 mm long, sutures winged; in temporarily flooded grassland, 800–1,000 m. South Africa to Sudan.

Malawi. Nyika Plateau, without locality, collector unknown (Patel 1999).

Sphenostylis briartii (De Wild.) Baker f.

probably *Sphenostylis marginata* E.Mey. sensu Mill (1979)

Perennial climbing or trailing herb to 1 m; leaves 3-foliolate, leaflets 11–55 x 1–20 mm, ovate to elliptic; flowers showy, pinkish mauve or maroon, upper petal large; pods linear, 33–46 x 3.5–4 mm, more or less glabrous; in high-rainfall miombo woodland, and grassland, sometimes near rivers, 780–1,800 m. Malawi, Zambia, Angola, D.R.C., and S. Tanzania.

Malawi. Nyika Plateau, Thazima Gate, 2000, *Salubeni & Mwanyambo 6757* (MAL).

Sphenostylis stenocarpa (Hochst. ex A.Rich.) Harms ✧

Sphenostylis congoensis A.Chev.

Perennial prostrate or climbing herb from a tuberous rootstock; leaves 3-foliolate, leaflets 27–130 x 2–75 mm, ovate to lanceolate, more or less glabrous; flowers cream to pink or mauve; pods 43–170 x 5–8 mm, linear, glabrous; in miombo woodland, riverine bush, grassland, and termite mounds, 10–1,500 m. Widespread in tropical Africa from Zimbabwe to Guinea and Ethiopia.

Zambia. Nyika National Park, western part of Park, 2000, *Phiri 3937* (UZL).

Tephrosia aequilata Baker ?subsp. **australis** Brummitt

Branching shrub to 3 m tall; leaves with 13–21 leaflets, densely hairy below, sparsely so (or glabrous) above; flowers purple; pods white-hairy, 3–6 seeded; montane grassland and scrub, 1000–2,500 m. Zimbabwe to E. D.R.C. and Kenya.

Source. Brummitt (1973: 66).

Malawi. Nyika Plateau, 6 km E.S.E. of Nganda, 1972, *Brummitt, Munthali & Sygne 123* (K, MAL); without precise locality, 2000, *Thera 3052* (MAL); Nchenachena, on spur of Nyika escarpment, 6,500', 1953, *Chapman 104* (FHO).

Tephrosia dasyphylla Baker ?subsp. **dasyphylla**

Perennial from a woody rootstock, stems densely hairy, to 0.4 m tall; leaves 1- to 5-foliolate, glabrous; flowers purple; pods straight, up to 45 mm long, tomentose, 5–8 seeded; in upland grassland, 1,500–2,000 m. Zimbabwe to Angola and Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Tephrosia interrupta Engl. subsp. **elongatiflora** Gillett ✧

Soft branching shrub to 4 m tall, stems hairy when young; leaves with 9–21 leaflets (4–10 pairs), glabrous above, hairy below; flowers purple; pods 80–90 mm long, densely tomentose, 10–13 seeded; in montane grassland, streamsides, and scrub margins, 1,350–2,000 m. Malawi, Mozambique, and Tanzania.

Source. Brummitt (1973: 66).

Malawi. Nyika Plateau, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Sygne 161* (K, MAL, SRGH).

Tephrosia nyikensis Baker subsp. **nyikensis**

Soft woody perennial to 2 m tall; leaves with 15–21 pairs of leaflets, hairless above, hairy below; inflorescence branched, flowers pink or purple; pods to 80 mm long, sparsely hairy, 9–14 seeded; in grassland and scrub, 1,500–2,100 m. Malawi, Mozambique, and Tanzania.

Source. Brummitt (1973: 66).

Malawi. Nyika Plateau, without locality, 6,000'–7,000', 1896, *Whyte s.n.* (K, holo.); E. foot of Nganda, 1972, *Brummitt & Sygne 112* (K, MAL, SRGH).

Tephrosia paniculata Baker

Erect annual or biennial to 2 m tall; leaves 3- to 5-foliolate, elliptic-oblong to lanceolate, with white hairs on both surfaces; flowers orange to brick-red; pods slightly upcurved, brown-hairy, 10–11 seeded; in grassland, hillside thickets, and swamps; 1,100–2,400 m. Zimbabwe to Sierra Leone and Kenya.

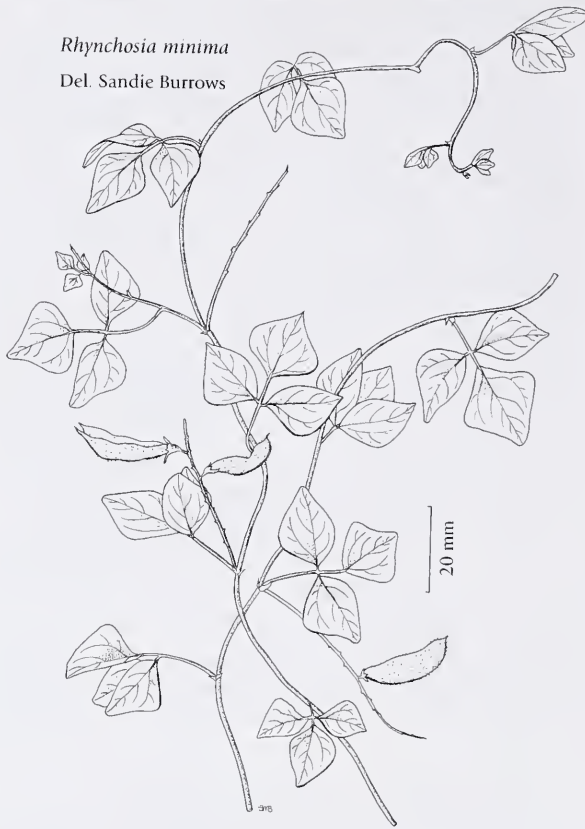
Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Trifolium semipilosum Fresen. var. **glabrescens** Gillett ✧

Perennial herb with prostrate hairy stems rooting at the nodes; leaves 3-foliolate, leaflets cuneate-obovate, emarginate, glabrescent; flowers in round

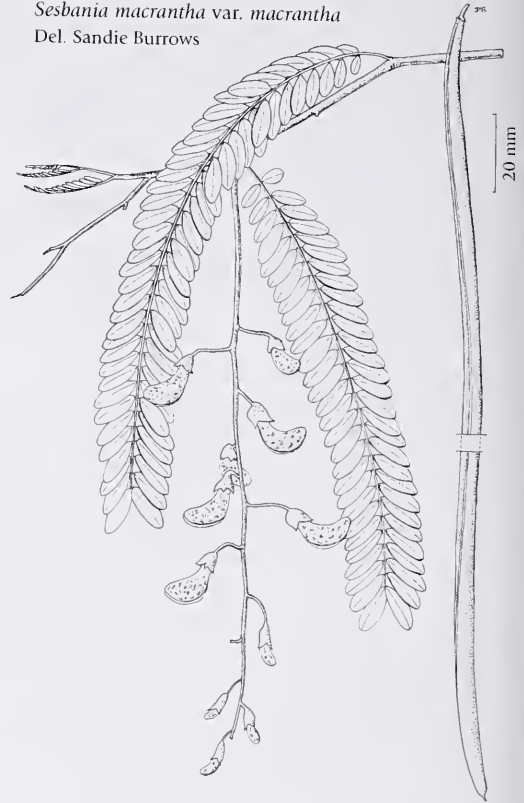
Rhynchosia minima

Del. Sandie Burrows



Sesbania macrantha var. *macrantha*

Del. Sandie Burrows



Sphenostylis stenocarpa

Del. Sandie Burrows



Tephrosia interrupta
subsp. *elongatiflora*

Del. William Trevithnick

heads, white or pale pink; pods 5–6 × 2.5 mm, seeds dull yellow to light brown; in moist montane grassland, 1,200–2,700 m. Malawi, Tanzania, to Ethiopia; perhaps not native in Malawi.

Source. *F.T.E.A.* Papilionoidae 2: 1028 (1971).

Malawi. Nyika Plateau, without locality, collector unknown (Patel 1999).

***Trifolium simense* Fresen.**

Erect perennial herb (?or annual), stems glabrous, to 600 mm tall; leaflets 3, linear, lanceolate to oblong, glabrous to sparsely hairy, margins spiny, petiole and stipules fused to form a sheath; flowers in round heads, reddish purple, bracts white; in montane grassland; 1,500–3,100 m. Malawi, Zambia (Nyika Plateau) to Cameroon and Ethiopia.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

***Trifolium usambarense* Taub.**

Annual or biennial herb, stems weakly ascending, often rooting at lower nodes; leaflets 3, oblanceolate, apex truncate or rounded; flowers in oblong heads, purple, rarely white; in marshy areas, openings in montane forest, by streams; 900–3,000 m. Zambia to Cameroon and Ethiopia.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

***Vicia paucifolia* Baker subsp. *malosana* (Baker) Verdc. ✧**

Lathyrus hygrophilus sensu Cufod., Enum.: 309, 1955, non Taub.; *Vicia paucifolia* Baker var. *malosana* (Baker) Brenan

Straggling perennial herb 0.3–1 m long; leaflets 2–4, linear to narrowly elliptic, thinly hairy, rachis ending in a simple tendril; flowers blue or violet; pod flat, narrowly oblong, 5- to 11-seeded, hairless; in grassland, thick vegetation in marshy places; 990–2,550 m. Malawi, E. Zambia, and S. Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Patel 1999).

Vigna frutescens* A.Rich. subsp. *frutescens* ?var. *frutescens

Prostrate or climbing perennial herb, or erect after fires, then flowering precociously, stems velvety; leaves 3-foliolate, ovate to oblong-ovate or rhombic, thinly to densely velvety; flowers mauve-lilac or whitish, scented; pods held erect, 60–110 × 4–5 mm, with 12–16 seeds, hairy; in seasonally burnt grassland and woodlands; 500–2,100 m. Mozambique to Nigeria and Ethiopia.

Malawi. Nyika Plateau, without precise locality (Dowsett-Lemaire 1985: 332).

***Vigna heterophylla* A.Rich.**

Annual or perennial climber, ca 1 m long, stems dark rusty-hairy; leaves 3-foliolate, leaflets ovate to lanceolate, hairy; flowers blue or violet; pods linear, 15–43 × 4.5–6 mm, flattened, densely dark rusty-hairy; in grassland, sometimes in marshy areas; 1,680–2,010 m. Zambia and Malawi to Cameroon and Ethiopia.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

***Vigna luteola* (Jacq.) Benth.**

Vigna fischeri Harms

Twining or trailing perennial herb to 6 m long, stems densely rusty-hairy; leaves 3-foliolate, leaflets ovate-elliptic to lanceolate, hairy on both surfaces; flowers yellow, sometimes tinged brown; pods linear, 40–80 mm long, flattened, rusty-hairy; in swampy grassland, montane grassland, forest margins; 1,000–2,250 m. Malawi to Cameroon and Ethiopia.

Source. *Flora zambesiaca* 3(5): 125 (2000).

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979); between N. Rukuru waterfalls (Chisanga Falls) and Apoka Village, 1,600 m, 1958, *Robson & Angus* 468 (K, LISC, SRGH).

Vigna oblongifolia* A.Rich. var. *oblongifolia

Prostrate or climbing annual herb, stem slender, hairy; leaves 3-foliolate, leaflets ovate to linear-lanceolate, sparsely hairy on both surfaces; flowers yellow, calyx hairy; pods curved to more or less straight, 55–70 mm long,

hairy; in wet areas, sometimes aquatic, sometimes a weed; 470–2,150 m. Tropical Africa.

Source. *Flora zambesiaca* 3(5): 127 (2000).

Zambia. Nyika Plateau, below Rest House on path to N. Rukuru waterfalls (Chisanga Falls), 2,150 m, 1958, *Robson & Angus* 407 (K).

***Vigna phoenix* Brummitt**

Vigna pygmaea R.E.Fries var. *grandiflora* Verdc.

Perennial pyrophyte with an elongate woody rootstock, stems hairy, to 300 mm tall; leaves 3-foliolate, leaflets 30–70 × 20–25 mm, hairy; inflorescence 100 mm tall, flowers mauve-pink; pods 20–40 × 2–3 mm, linear-cylindrical, hairy, with a curved beak; in seasonally burnt grassland and miombo woodland; 1000–2500m. N. Malawi, Zambia, and Tanzania. Widespread on Nyika, rare elsewhere.

Source. Brummitt (1976: 166).

Malawi. Nyika Plateau, near Nganda, 1972, *Synge* 467 (K, holo.).

***Vigna platyloba* Welw. ex Hiern**

Perennial climbing or trailing herb to 2 m long, stems hairy; leaves 3-foliolate, leaflets ovate to rhomboid-oblong, velvety; flowers mauve-violet, keel white; pods cylindrical, 40–90 × 6 mm, hairy, ca 12-seeded; in miombo woodland and scrub, often a weed; 700–1,800 m. Mozambique, Malawi, Zambia, Angola, and S. Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

***Vigna pygmaea* R.E.Fr.**

Short erect pyrophyte with several stems 30–150 mm long from a woody rootstock; leaves 3-foliolate, leaflets elliptic to linear-oblong, nearly hairless; flowers mauve or violet with a yellow basal spot; pods more or less cylindrical, 30–40 × 2.5–3 mm, densely hairy, with a curved beak; in *Uapaca* woodland; 1,500–2,230 m. Zimbabwe to Angola, Cameroon, and Tanzania.

Source. Brummitt (1973: 66).

Malawi. Nyika Plateau, Sawi Valley, 1972, *Synge* 414 (K).

***Vigna unguiculata* (L.) Walp. subsp. *pawekiae* Pasquet**

Vigna unguiculata subsp. *dekindtiana* var. *mensensis* sensu Verdcourt in *Kew Bulletin* 24: 545 (1970).

Robust perennial with climbing stems, arising from a carrot-shaped rootstock; leaflets 3, rhombic or lanceolate, acute, scabrous; flowers large blue and white, scented; pod 8–10 × 2.5–5 mm, linear-cylindrical, scabrid; in evergreen forest and bush or swampy areas; 1,100–2,300 m. Common on Nyika and Vipha; also in Tanzania and Kenya.

Source. *Flora zambesiaca* 3(5): 141 (2000).

Malawi. Nyika Plateau, road to Chisanga Falls, 1987, *Mithen* 449 (K, MAL, SRGH).

***Vigna vexillata* (L.) A.Rich. ?var. *angustifolia* (Schumacher & Thonn.) Baker ✧**

Perennial climbing or trailing herb to 6 m long, stems hairy; leaves 3-foliolate, leaflets ovate to lanceolate, both surfaces velvety; flowers purple, pink or yellow; pods held erect, more or less cylindrical, hairy, 10–18 seeds; grassland and wooded grassland. Variety yet to be confirmed.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979); W. of Vitiniza Hill, 2000, *Mwanyambo* 506 (MAL).

***Zornia glochidiata* Reichb. ex DC. ✧**

Annual herb with numerous erect stems to 0.5 m tall; leaves with 2 leaflets, leaflets up to 40 mm long and 10 mm wide; flowers yellow to orange-yellow; pods divided into 4 distinct segments, set with strong bristles; weedy in disturbed areas over a wide range of habitats. Widespread throughout tropical Africa.

Malawi. Nyika National Park, W. of Vitiniza Hill, 2000, *Salubeni & Mwanyambo* 6762 (MAL).

Excluded species

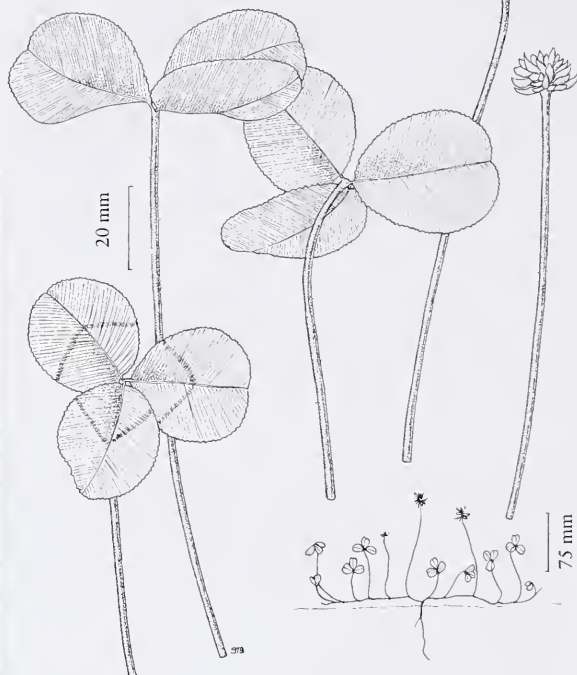
***Indigofera viscosa* Lam.**

If this is *I. viscosa* sensu Brenan in *Report Vernay Nyasaland Expedition*

(1953), then this taxon is *I. mimosoides* Baker var. *mimosoides* (Gillett 1958: 64). If used in its true sense, as listed in most other early African



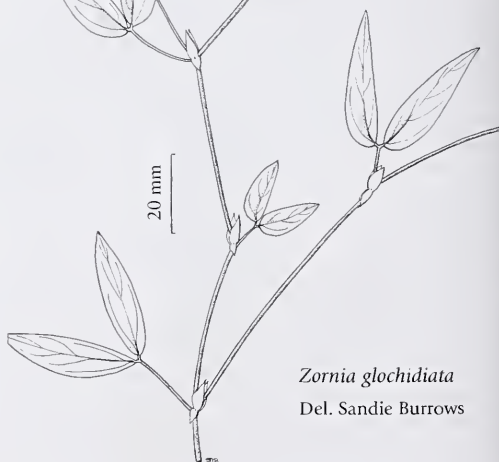
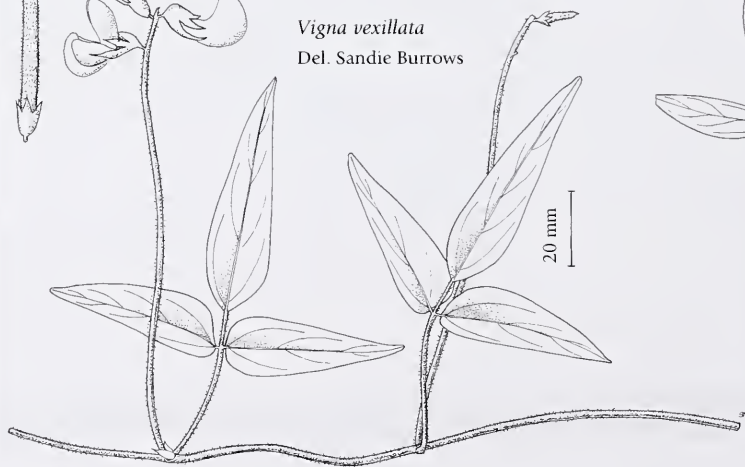
Trifolium semipilosum
var. *glabrescens*
Del. Sandie Burrows



Vicia paucifolia subsp. *malosana*
Del. Sandie Burrows



Vigna vexillata
Del. Sandie Burrows



Zornia glochidiata
Del. Sandie Burrows

floras, then this taxon is referable to *I. colutea* (Burm. f.) Merr. (Gillett in *F.T.E.A. Papilionoidae* (1): 266, 1971). Since no specimen is quoted for this collection, it is here excluded.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Indigofera sp.

New record according to Patel: t. 4 (1999), but no specimen or details given.

Malawi. Nyika Plateau, without locality, collector unknown (Patel 1999).

Pericopsis bussei

This name, without authority or collecting details, is listed in Patel (1999), but the name is not listed in either *F.T.E.A.* or Lebrun & Stork

(1992).

Malawi. Nyika Plateau, without locality, collector unknown (Patel 1999).

Trifolium repens L.

Not in *F.T.E.A.*; probably = *T. semipilosum* var. *glabrescens*.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Trifolium ukingense Harms

As for *T. simense*, but leaves densely hairy below, margins entire; dry montane grassland on lateritic soils; 2,100–2,400 m. In *F.T.E.A.* this species is recorded as being confined to Tanzania and, since we have seen no specimen, it is here excluded. Possibly a misidentification.

Malawi. Nyika Plateau, without locality, collector unknown (Patel 1999).

FLACOURTIACEAE

Aphloia theiformis (Vahl) Benn. ❖

Aphloia myrtiflora Galpin

Tumbuka: kamchere; *Yao:* nakaseje

Evergreen shrub or tree to 18 m tall, twigs sometimes faintly zigzagging, with two faint lines running down the twig from the petiole; leaves alternate, distichous, shiny green above, hairless, margins finely serrate; flowers 1–3 in leaf axils, white, sweetly scented, with numerous stamens; fruit a white fleshy berry; in or on margins of montane forest 1,250–2,450 m. South Africa up eastern Africa to Kenya; also on Madagascar and the Indian Ocean islands.

Source. *Flora zambesiaca* 1(1): 279 (1960).

Malawi. Nyika Plateau, Nyamkowa Hill, 1903, *McClounie* 181 (K); Sangule Hill, 1959, *Adlard* 307 (FHO).

Zambia. Nyika Plateau, Manyanjere, Kasoma and Chowo Forests, without collecting details (Dowsett-Lemaire 1985: 316); 5.5 miles S.W. of Rest House, 2,150 m, 1958, *Robson* 349 (UZL).

Casearia battiscombei R.E.Fr. ❖

Tall evergreen tree to 30 m with rough greyish bark; leaves alternate, oblong-elliptic, 80–220 mm long, hairless, with circular gland dots, base asymmetrical; flowers small, greenish, in axillary clusters; fruit an elongate capsule ca 13 mm long; in montane and mid-altitude forest; 1,600–2,250 m. Zimbabwe, Mozambique, Malawi, Tanzania, Uganda, and Kenya. Widespread, but rare on the Nyika. The capsules are eaten by Rameron Pigeons.

Source. Brummitt (1973); White *et al.* (2001).

Malawi. Nyika National Park, 3 km W. of Muzengapakweru, 1972, *Synge* 300 (K); Juniper Forest Reserve, *White* 2587h (White *et al.* 2001).

Zambia. Nyika Plateau, Manyanjere, Kasoma, and Chowo Forests, without collecting details (Dowsett-Lemaire 1985: 314).

Dovyalis abyssinica (A.Rich.) Warb.

Shrub or small tree to 8(15) m tall, branches with or without slender spines; leaves ovate-oblong, 40–90 mm long, more or less hairless with age, margins entire, slightly wavy; flowers 1–3 on long stalks in leaf axils; fruit roundish, ca 20 mm diameter, yellowish red, hairy or not, calyx lobes 5–6 mm long; in evergreen forest. Malawi and N.E. Zambia, northwards to Ethiopia, Somalia, and Socotra.

Source. Dowsett-Lemaire (1985: 316); White *et al.* (2001: 268).

Zambia. Nyika Plateau, Chowo Forest, 2,100 m, *Dowsett-Lemaire* 267 (K).

Dovyalis macrocalyx (Oliv.) Warb. ❖

Chichewa: ng'amba (fruit), ngambo; *Yao:* msewe

Spiny shrub or small tree to 7(12) m, branches with long slender spines to ca 50 mm long; leaves narrowly ovate to elliptic, 25–90 mm long, thin, slightly glossy above, margin entire to minutely crenate; flowers axillary, 1–4 in a cluster; fruit a fleshy, red, 2-seeded berry, with the calyx lobes as long as the fruit; widespread in various forest types, 1,600–2,450 m. Zimbabwe to Angola, C.A.R. and Kenya.

Source. *Flora zambesiaca* 1(1): 281 (1960); White *et al.* (2001: 270).

Malawi. Nyika Plateau, high plateau, 2,250–2,450 m (Dowsett-Lemaire 1985: 316).

Dovyalis macrocarpa Bamps

Spiny shrub or tree, 2–5 m tall, spines slender; leaves alternate, ovate to

oblong-ovate; in montane forest. This tree also resembles *D. spinosissima* Gilg, a species of lowland rainforest, but since the Nyika specimens are sterile the relationship between the two is uncertain (White *et al.*, loc.cit.).

Source. Dowsett-Lemaire (1985: 317); White *et al.* (2001: 270).

Malawi. Nyika National Park, Zovochipolo, (Dowsett-Lemaire 1985) and Juniper Forest (White *et al.* 2001).

Zambia. Nyika National Park, Kasoma and Chowo Forests (Dowsett-Lemaire 1985).

Dovyalis sp. 1.

White *et al.* (2001) write: 'This plant, which has been under observation for several years, has never been seen in flower. In its spinous stems and sharply serrate leaves it bears some resemblance to young plants of *D. lucida* Sim'.

Source. Dowsett-Lemaire (1985: 317); White *et al.* (2001: 272).

Malawi. Nyika Plateau, Juniper Forest Reserve, *Lawton* 1284 (White *et al.* 2001: 272).

Zambia. Nyika Plateau, Chowo Forest, *White* 12879a (White *et al.* 2001: 272).

Flacourtia indica (Burm.f.) Merr. ❖

Chichewa: matyokolo, ndwa, ntawa, nthudza, ntudja

Shrub or small tree 3–5 m tall, with branched spines on the stem, axillary spines often present; fruit reddish to reddish black, to 25 mm diameter, fleshy, edible; in various types of woodland and dry forest. Widespread in Africa; also in Madagascar and Asia, as far as China. The fruits are tasty and sought after; an infusion of the roots is used to cure pneumonia.

Source. Brummitt (1973).

Malawi. Nyika National Park, Chipome Valley, 1972, *Synge* 267 (K, MAL, SRGH).

Flacourtia sp. cf. *vogelii* Hook.f.

Tall, straight-boled forest tree to 15 m, trunk often armed with clusters of stout, branched spines; leaves ovate to elliptic, 90–150 mm long, margins serrulate; fruit 6–8 mm diameter; in or on margins of evergreen forest or riverine forest. This tree is treated as *F. indica* by Dowsett-Lemaire (1985) and White *et al.* (2001), but this taxon is quite distinct from the smaller, much-branched tree of the African woodlands and savannas. Both PRE and K identified a specimen collected in S.W. Nyika as *F. vogelii*. That species, however, is a W. African tree of coastal forest and it is much more likely that the Nyika forest tree represents an undescribed species.

Malawi. Nyika National Park, 39.4 km from Chelinda to Thazima Gate, 1,910 m, 2000, *Burrows & Maroyi* 6794 (PRE, Buffelskloof Herb.).

Zambia. Nyika National Park, Manyanjere Forest, *Dowsett-Lemaire* 563 (Dowsett-Lemaire 1985: 316).

Kiggelaria africana L. ❖

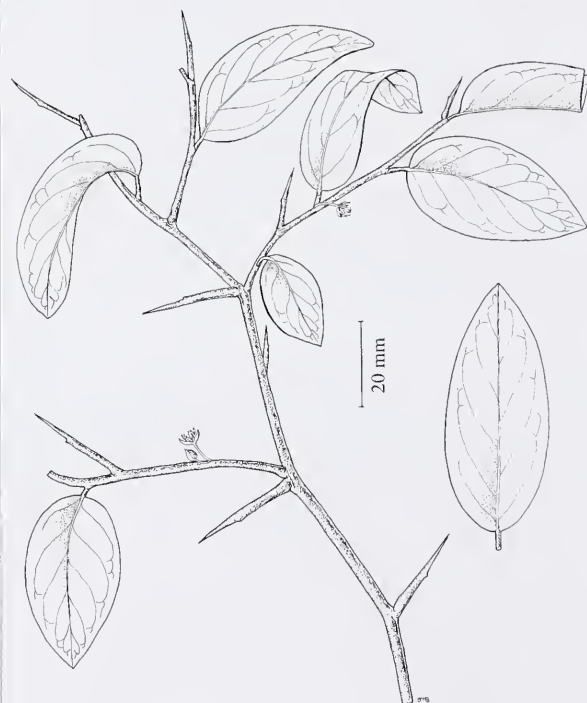
Chichewa: kabulu

Small to medium tree to 13 m tall; leaves mid-green, minutely hairy or more or less glabrous, margins serrate (young leaves) or entire in old specimens; flowers axillary, yellowish green; fruit a round woody capsule, splitting into 5 valves, seeds orange-red, sticky; in montane forest. A typical Afrotropical species, from the Cape Peninsula to Kilimanjaro.

Aphloia theiformis
Del. Sandie Burrows



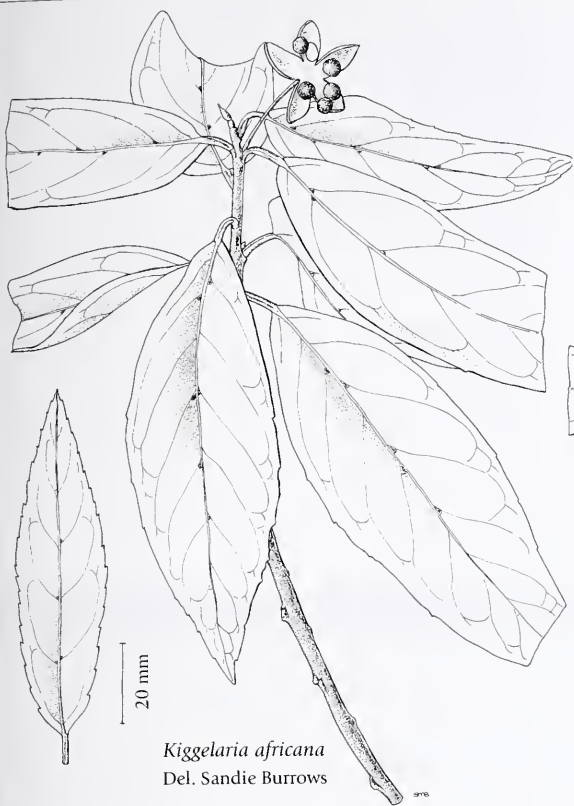
Casearia battiscombei
Del. Sandie Burrows



Doryalis macrocalyx
Del. Sandie Burrows



Flacourtia indica
Del. Sandie Burrows



Kiggelaria africana
Del. Sandie Burrows



Rawsonia lucida
Del. Sandie Burrows



Scolopia stolzii
Del. Sandie Burrows



Anthocleista grandiflora
Del. Sandie Burrows

Malawi. Nyika National Park, Mwenembwe, Dowsett-Lemaire 379 (White *et al.* 2001: 273); without locality, 1946, Brass 17238 (K, PRE, SRGH).

Rawsonia lucida Harv. & Sond. ✧

Rawsonia schlechteri Gilg

Evergreen shrub or small tree to 8(15) m, bark grey, smooth, flaking in large patches to paler below; leaves oblong-elliptic, stiffly leathery, subglossy above, hairless, margins prominently and sharply toothed; flowers axillary, whitish; fruit round, ca 25 mm diameter, yellowish; an understory species in evergreen forest; 1,600–2,200 m. South Africa northwards through eastern Africa to Kenya and Sudan.

Malawi. Nyika National Park, Kasyaula Forest (Dowsett-Lemaire 1985: 317); without locality or collecting details (Mill 1979).

Zambia. Nyika, without precise locality, 1952, White 2768 (FHO).

Scolopia stolzii Gilg & Sleumer ✧

Small tree to 10 m tall, bark grey-brown, smooth, flaking, branches often spiny; leaves leathery, ovate-elliptic to elliptic-oblong, 50–120 mm long, concolorous; flowers single in leaf axils, more or less sessile; fruit ca 20 mm diameter, crowned with the persistent style; in riverine forest; 750–1,700 m. South Africa to Cameroon and Kenya.

Source. Dowsett-Lemaire (1985: 361); White *et al.* (2001: 278).

Malawi. Nyika Plateau, below N. Rukuru waterfalls, 1,700–1,750 m,

Dowsett-Lemaire 331 (herbaria not stated).

Scolopia theifolia Gilg

Much-branched shrub or tree to 10 m tall, bark smooth, greyish white; leaves leathery, ovate-elliptic, 35–65 mm long, hairless; flowers one to a few in leaf axils, more or less sessile; fruit oblong-ovoid, 10 mm long, red when ripe; in or on edges of montane forest; 2,250–2,300 m on Nyika. N. Malawi northwards to Ethiopia and Somalia. This is the only known collection from the *Flora zambesiaca* region.

Source. Dowsett-Lemaire (1985: 329); Dowsett-Lemaire & White (1990: 78).

Malawi. Nyika National Park, forest patch above Chelinda Bridge, Dowsett-Lemaire 246 (K).

Scolopia zeyheri (Nees) Harv.

Small evergreen tree 5–8 m tall, trunk of older trees armed with stout branched spines, young branches with straight spines; leaves leathery, 20–80 mm long, dull above, revealing a white line when the leaf is folded; flowers in axillary racemes; fruit up to 10 mm diameter; in drier types of montane forest, thicket, and moist woodland; 750–1,500 m. South Africa to Angola, Cameroon, and Ethiopia.

Source. *Flora zambesiaca* 1(1): 276 (1960); White *et al.* (2001: 280).

Malawi. Nyika Plateau, Nkhonjera Hill, without collecting details (Dowsett-Lemaire 1985: 351).

GENTIANACEAE

Anthocleista grandiflora Gilg ✧

forest fever-tree; *Chichewa:* nkungubwi; *Tumbuka:* bekaveka, mgolya;

Yao: nguunguo

Tall evergreen tree to 35 m tall, with a tall, clear bole and massive, unmistakable, simple leaves; leaves up to 700 x 250 mm, obovate, glossy green, hairless; flowers white or creamy; a constituent of riverine or swamp forest, usually at lower altitudes below 1,800 m. South Africa to Kenya.

Malawi. Nyika Plateau, below Chisanga Falls, N. Rukuru River (Dowsett-Lemaire 1985: 361).

Chironia laxiflora Baker ✧

Spreading or suberect annual herb 0.3–1.5 tall; leaves in distant pairs, ovate-cordate, 12–40 x 18–25 mm, amplexicaul at the base; flowers pink to red, in 2- to 7-flowered cymes; on damp sandy loam soils, in open miombo woodland, and riverine forest; 1,300–1,500 m. N. Mozambique, Malawi, N.E. Zambia, and Tanzania.

Source. Brummitt (1973).

Malawi. Nyika National Park, W. foot of Nganda, 1972, Brummitt & Syngae 7 (EA, K, LISC, MAL, PRE, SRGH, UPS).

Faroo acaulis R.E.Fr. ✧

Small stemless herb 5–15 mm tall; leaves in a prostrate rosette of 3–4 pairs, petiolate, 6–45 x 3–32 mm, ovate to ovate-deltoid; flowers in a dense round stalkless cluster in the centre of the leaf rosette, blue to whitish; in open dry or damp grassland, often on sand; 700–1,600 m. Malawi, Zambia, Angola, D.R.C., Rwanda, Burundi, and Tanzania.

Source. *Flora zambesiaca* 7(4): 42 (1990).

Malawi. Chitipa District, Nthalire Descent Road from Nyika, 1973, Pawek 6613B (K).

Sebaea bojeri Griseb.

Erect annual herb 50–200 mm tall, stems slender, unbranched or branching basally; leaves opposite, linear-lanceolate to ovate-lanceolate, 4–6 x 1 mm; flowers yellow, single or few; in open woodland and montane grassland; 1,500–2,300 m. South Africa, Zimbabwe, Malawi, and Tanzania; also in Madagascar.

Source. *Flora zambesiaca* 7(4): 12 (1990).

Malawi. Nyika Plateau, Chelinda Camp, 1970, Brummitt 10874 (K).

Sebaea leiostyla Gilg ✧

Sebaea polyantha Gilg; *Sebaea transvaalensis* Schinz

Erect annual or perennial herb to 0.6 m tall, stem branched or not, 4-ridged; leaves sessile, ovate to almost kidney-shaped, cordate, 6–25 x 7–30 mm;

flowers bright yellow or orange, in many-flowered heads; in grassland, in damp soil over granite and rocky outcrops; 1,300–2,140 (3,500) m. Wide-spread throughout eastern, southern, and tropical Africa.

Source. *Flora zambesiaca* 7(4): 24 (1990).

Malawi. Nyika Plateau, Kasaramba, 1967, Salubeni 723 (K, LISC, PRE, SRGH); Lake Kaulime, 2000, Burrows & Burrows 6864 (MAL, PRE); 2nd Trout Dam, 2000, Koekemoer 1795 (PRE).

Sebaea longicaulis Schinz

Sebaea crassulifolia var. *lanceolata* Schinz; *Sebaea macrosepala* Gilg;

Sebaea oreophila Gilg

Erect annual herb to 0.6 m tall, from a perennial rootstock, stems branched or not, 4-ridged; leaves sessile, elliptic-lanceolate to almost round, 18 x 15 mm; flowers yellow, in few-flowered heads; in grasslands; 1,700–2,300 m. South Africa, Zimbabwe, Mozambique, Malawi, and the Cameroons.

Source. *Flora zambesiaca* 7(4): 24 (1990).

Malawi. Nyika Plateau, 1946, Brass 17226 (BM, K).

Sebaea microphylla (Edgew.) Knobl.

Erect annual herb, sometimes parasitic, 40–400 mm tall; leaves oblong-ovate to triangular-lanceolate, 2–6 x 0.5–1.5 mm; flowers yellow, single or many, tube 4–6 mm long; in open woodland and grassland; 780–1,200 m. Zimbabwe to Angola, D.R.C., and Tanzania; not recorded from Malawi in *Flora zambesiaca* which, since we have not been able to confirm this collection, casts some doubt on this record.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Swertia abyssinica Hochst. ✧

Swertia porphyrantha Baker [Nyika Plateau, Whyte 147 (K)].

Erect annual herb to 650 mm tall, branched at the base or in the middle; leaves not basally clustered, elliptic, 8–25 mm long; flowers white or cream, in long stalked clusters; in marshy grassland, seepage areas; 1,500–3,048 m. Malawi to Ethiopia and Cameroon.

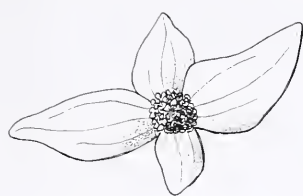
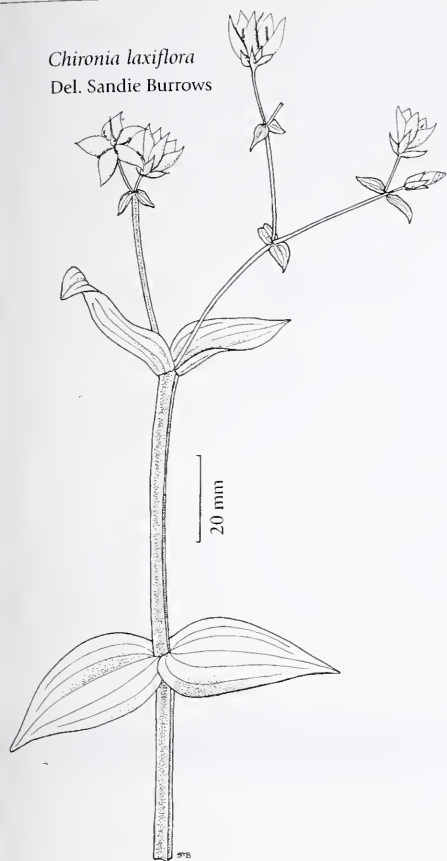
Source. *Flora zambesiaca* 7(4): 31 (1990).

Malawi. Nyika Plateau, 1969, Pawek 2067 (K); Nganda Hill, 2000, Burrows & Burrows 6852 (MAL, PRE, SRGH, UZL).

Swertia curtioides Gilg

Erect annual herb to 300 mm tall, stem unbranched or branched from the base, 4-ridged; cauline leaves lanceolate, basal leaves ovate to ovate-oblong, apex rounded; flowers whitish or white with purple veins; on damp flat rocks amongst grass; 1,980–2,300 m. Malawi, Mozambique, and Tanzania.

Chironia laxiflora
Del. Sandie Burrows



Faroa acaulis
Del. Sandie Burrows



Swertia abyssinica
Del. Sandie Burrows



Geranium vagans
subsp. *vagans*
Del. Sandie Burrows



Sebaea leiostyla
Del. Sandie Burrows

Source. *Flora zambesiaca* 7(4): 30 (1990).

Malawi. Nyika National Park, Mpopoti Hill, 2000, *Salubeni & Mwanyambo* 6791 (MAL); Chosi Hill, 2000, *Burrows & Burrows* 6741 (MAL, PRE, UZL).

Swertia eminii Engl.

Erect annual herb to 0.5 m tall, stem branching (mainly basal); leaves in distant pairs, 10–30 mm long, oblong to lanceolate above, ovate to elliptic basally; flowers whitish or cream; at edge of woodland in very long grass; 1,450–2,450 m. Widespread from Mozambique to Zambia, Cameroon, Sudan, and Kenya.

Source. *Flora zambesiaca* 7(4): 30 (1990).

Malawi. Nthalire Road, descending from Nyika, 1973, *Pawek* 6612 (K).

Swertia johnsonii N.E.Br.

Perennial erect herb to 1 m tall, stem branched, densely leafy at the base; leaves sessile, paired, lanceolate to linear-lanceolate, 20–85 mm long, base truncate; flowers terminal or axillary, in stalked clusters, mauve to violet or blue; in damp submontane grassland; 2,300–2,700 m. Stated in *Flora zambesiaca* as 'not known elsewhere', but the type, collected by the Rev. Johnson, is localised as 'on mountains east of Lake Nyasa'. Since Johnson did not collect on the Nyika, but travelled the entire eastern length of Lake Nyasa (Lake Malawi), the type was probably collected in Mozambique, although it is also possible that it was gathered in either Tanzania or Malawi. In any event, this species is not endemic to Nyika.

Source. *Flora zambesiaca* 7(4): 26 (1990).

Malawi. Nyika Plateau, 1946, *Brass* 17149 (BM, K, PRE).

Swertia kilimandscharica Engl.

As for *S. johnsonii* (above), but with leaves broadly ovate-lanceolate to triangular-ovate, base rounded, cordate or amplexicaul; flowers whitish purple-pink to pale lavender; at edge of lakes and in swampy ground; 2,100–3,000 m. Malawi, Rwanda, Burundi, Uganda, Kenya, and Tanzania.

Source. *Flora zambesiaca* 7(4): 27 (1990).

Malawi. Nyika Plateau, Lake Kaulime, 1970, *Brummitt* 10808 (K); Nganda Hill, 2000, *Burrows & Burrows* 6853 (MAL, PRE, SRGH); Mpopoti Hill, 2000, *Salubeni & Mwanyambo* 6780 (MAL).

Swertia usambarensis Engl.

Erect annual herb to 0.5 m tall, stem branched from base or near apex; upper leaves lanceolate, shortly petiolate, basal leaves ovate-elliptic to broadly elliptic; flowers pale blue; in grasslands; 1,800–2,500 m. Widespread from Zimbabwe and Mozambique to Ethiopia.

Source. *Flora zambesiaca* 7(4): 30 (1990).

Malawi. Nyika Plateau, 1970, *Brummitt* 10654 (K); Chelinda Bridge, 2000, *Izidine* 49 (LMA).

Swertia welwitschii Engl.

Swertia sharpei N.E.Br.

Erect annual herb 250–800 mm tall, stem unbranched or branching near the apex; basal leaves soon absent, cauline leaves linear-lanceolate, 15–45 mm long, base tapering; flowers in axils of upper leaves, white, cream, or white with purple veins; in wet grasslands and in marshy areas along rivers; 1,350–2,000 m. South Africa to Kenya.

Malawi. Nyika National Park, Dembo River Bridge, 2000, *Thera* 3012 (MAL); Wovve River Catchment, 2000, *Willis* 164 (MAL, PRE).

Excluded species

Chironia gratissima S.Moore

This taxon is confined to the Chimanimani region of Zimbabwe/Mozambique, and D.R.C.; it is not recorded from Malawi or Zambia in *Flora zambesiaca* 7(4): 36 (1990) and it therefore seems likely that these collections are in fact *C. laxiflora* Baker.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999); Juniper Forest, 2000, *Chapama* 209 (ZMAL).

Sebaea sedoides Gilg

This species (including the varieties *confertifolia* and *schoenlandii*) is confined to South Africa and Zimbabwe. Since it is not recorded from Malawi in *Flora*

zambesiaca (1990) and we have no details of the specimen, it is excluded here. Malawi. Nyika National Park, without locality or collecting details (Patel 1997).

Sebaea sp.

Because this genus has been treated in *Flora zambesiaca* since the quoted collection was made, it is assumed that it is included within one of the species listed above.

Source. *Brummitt* (1972).

Malawi. In forest 4 km W. of Nganda, 1972, *Brummitt & Syngé* 78 (K, MAL, SRGH, PRE, LISC).

GERANIACEAE

Geranium aculeolatum Oliv.

Perennial trailing herb, stems with sharp reflexed prickles; leaves broadly ovate, deeply pinnatisect into *ca* 5 lobes, with stiff hairs on both surfaces; flowers white to pale pink or pale mauve; fruit a linear capsule (rostrum), the segments splitting and curling upwards towards the tip; in clearings in montane forest; 1,450–2,130 m. Malawi and N. Mozambique to Ethiopia.

Source. *Flora zambesiaca* 2(1): 131 (1963).

Malawi. Nyika Plateau, track to Rukuru (Chisanga) Falls, 1959, *Richards* 10527 (K); Mbuzinandi, 2000, *Salubeni & Mwanyambo* 6826 (MAL).

Geranium arabicum Forssk. subsp. *arabicum*

Perennial creeping herb with hairy stoloniferous stems; leaves broadly ovate, deeply pinnatisect into 5 toothed lobes, hairy on both surfaces; flowers white or pink with conspicuous red veins; fruit a linear capsule (rostrum), the segments splitting and curling upwards towards the tip; in damp shady habitats, especially in woodland; 1,100–2,130 m. Zimbabwe to Nigeria, Ethiopia, Yemen, and Madagascar.

Source. *Flora zambesiaca* 2(1): 133 (1963).

Malawi. Nyika Plateau, Lake Kaulime, 1958, *Robson* 339 (BM, K, LISC, SRGH).

Geranium nyassense Kunth

Geranium incanum Burm.f. subsp. *nyassense* (Kunth) Laundon

Soft creeping perennial herb; leaves broadly ovate, deeply pinnatisect into 5 lobes, margins also deeply incised, hairy on both surfaces; flowers white,

pink or mauve with dark veins; fruit a linear capsule (rostrum), the segments splitting and curling upwards towards the tip; in open moist habitats in montane grassland and forest margins; 1,500–2,560 m. Zimbabwe, Malawi, Mozambique, and Tanzania.

Source. *Flora zambesiaca* 2(1): 134 (1963); *Brummitt* (1973).

Malawi. Nyika National Park, W. foot of Nganda, 1972, *Brummitt & Syngé* 18 (K, MAL, SRGH, LISC, PRE, EA, BR); without precise locality, 1946, *Brass* 17189 (BM, K, SRGH).

Geranium vagans Baker subsp. *vagans* ✧

Semi-procumbent perennial herb; leaves broadly ovate, deeply pinnatisect into 5 lobes, each lobe further pinnatisect into linear lobes, hairy on both surfaces; flowers pink or mauve; fruit a linear capsule (rostrum), the segments splitting and curling upwards towards the tip, beak of the rostrum with long glands; in montane grassland in moist areas; 1,830–2,300 m. N. Malawi to D.R.C., Uganda, Kenya, and Tanzania.

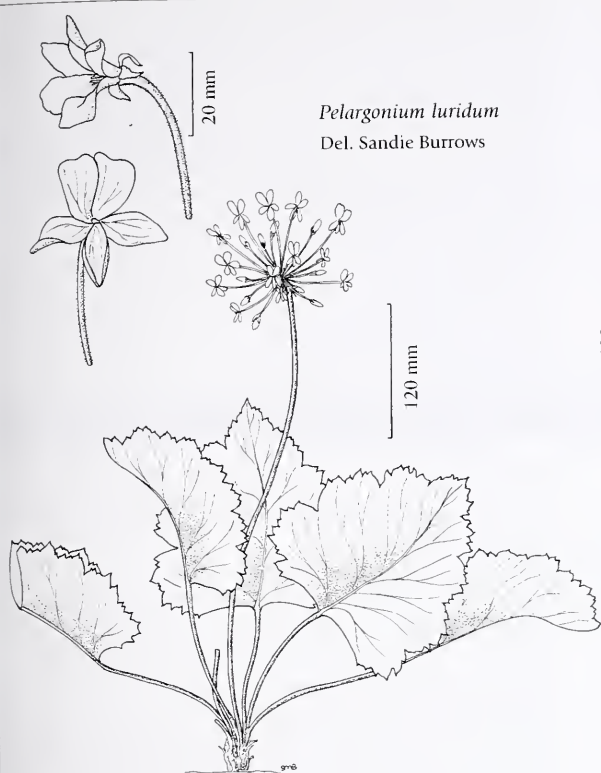
Source. *Flora zambesiaca* 2(1): 135 (1963).

Malawi. Nyika Plateau, 1896, *Whyte* s.n. (K, holo.); Kaulime Pond, 1956, *Chapman* 382 (BM, LISC); Mpopoti Hill, 2000, *Salubeni & Mwanyambo* 6782 (MAL); Dembo Bridge, 2000, *Kasakula* 235 (LMA, MAL, SRGH).

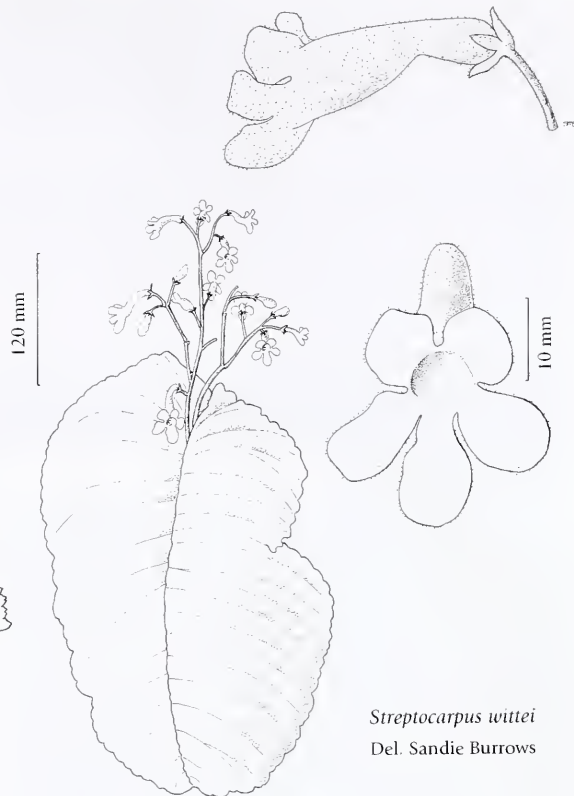
Zambia. Nyika Plateau, without precise locality, 1964, *Benson* 418 (K).

Pelargonium apetalum P.Taylor

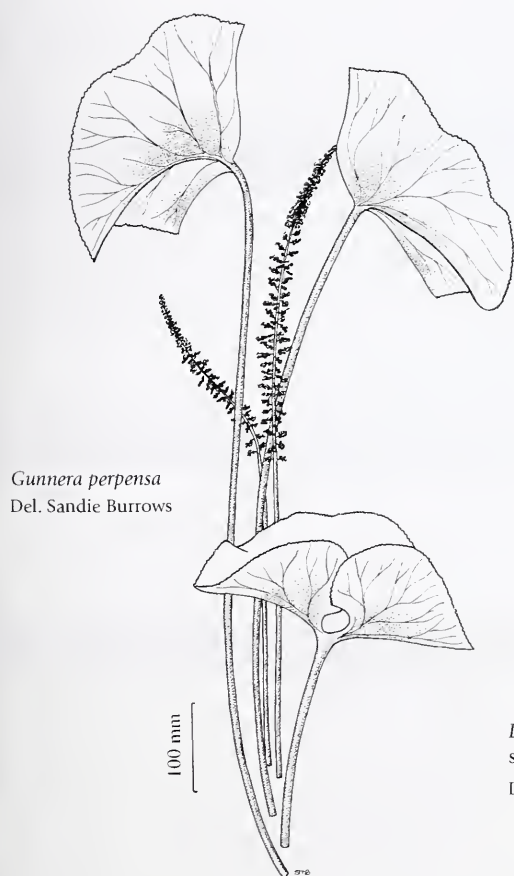
Creeping annual herb with ascending branched stems; leaves deltoid to



Pelargonium luridum
Del. Sandie Burrows



Streptocarpus wittei
Del. Sandie Burrows



Gunnera perpensa
Del. Sandie Burrows



Lauremburgia tetrandra
subsp. *brachypoda*
Del. Maureen Church

broadly ovate, unlobed or shallowly 3- to 7-lobed; flowers usually without petals; fruit a beaked capsule; in open bush among rocks, also as a weed of cultivation; 1,500–2,200 m. Zimbabwe, Malawi, and Tanzania.

Source. *Flora zambesiaca* 2(1): 145 (1963).

Malawi. Nyika Plateau, without precise locality, 1896, *Whyte* s.n. (K); Dembo Bridge, 2000, *Thera* 3004 (MAL).

***Pelargonium luridum* (Andr.) Sweet ✧**

Perennial stemless herb with woody rootstock; leaves broadly ovate, very variably divided (pinnatisect), petiole 80–200 mm long; flowers on long stalks, with 5 whitish to pale yellow or pink petals; fruit a beaked capsule; in montane grassland and woodland; 800–2,300 m. South Africa to Angola, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 2(1): 142 (1963).

Malawi. Nyika National Park, Lake Kaulime, 1958, *Robson* 324 (BM, K,

LISC, PRE, SRGH).

Zambia. Nyika Plateau, 2.5 km from Rest House, 1956, *Benson* NR 190 (BM).

***Pelargonium whytei* Baker**

Straggly perennial herb with stems to 1.3 m long; leaves ovate, 3-partite or 3-lobed; flowers with 4 pink, red-veined petals; fruit a beaked capsule; in montane grassland and scrub; 1,500–2,440 m. Zambia and Malawi to D.R.C., Kenya, and Tanzania.

Source. *Flora zambesiaca* 2(1): 143 (1963); Brummitt (1973).

Malawi. Nyika Plateau, 1896, *Whyte* s.n. (K, holo.); Nchenachena Spur, 1946, *Brass* 17364 (K, SRGH); Nyika National Park, W. foot of Nganda, 1972, *Brummitt & Synge* 55 (K, MAL, SRGH, LISC, EA, PRE).

Zambia. Nyika Plateau, below Rest House on N. Rukuru Road, 1958, *Robson & Angus* 409 (BM, K, LISC, PRE, SRGH).

GESNERIACEAE

***Streptocarpus goetzei* Engl.**

Streptocarpus mahonii Hook.

Herb with single leaf; leaves ca 150 × 120 mm, hairy; flowers several, medium violet with darker markings in the mouth, tube long, mouth compressed laterally above to form an inverted 'V'; on mossy rocks or tree trunks in forest. Malawi, Mozambique, and Tanzania. The quoted specimen is just outside the Park boundary, but is still technically on the edge of the plateau. Dowsett-Lemaire (1985) states that on Nyika *S. goetzei* occurs from 2,350 down to 2,100 m, where it is replaced by *S. solenanthus* at lower altitudes. This does not agree with Hilliard and Burtt's observations in *Flora zambesiaca* and a specimen photographed by Burrows in Zovochipolo Forest (alt. 2,200 m) is clearly *S. solenanthus* (Plate 3).

Source. *Flora zambesiaca* 8(3): 47 (1988); Dowsett-Lemaire (1985: 358).

Malawi. Nyika Plateau escarpment, Manchewe Falls, 1977, *Grosvenor & Renz* 1252 (SRGH).

***Streptocarpus solenanthus* Mansf. ●**

Herb with a single leaf; leaves ovate to oblong, 70–150 × 40–120 mm, hairy; flowers several, white to pale violet with darker marks in the throat,

tube long, round; epiphytic in forest or growing on exposed rock outcrops; 1,350–2,200 m. A specimen from the Nyika Plateau (*Simon, Williamson & Ball* 1746 (SRGH)) may be the result of hybridisation with *S. wittei*. See also notes under *S. goetzei*.

Source. *Flora zambesiaca* 8(3): 47 (1988).

Malawi. Nyika Plateau (Hilliard & Burtt 1971: 185); Zovochipolo Forest, 2000, *Burrows & Burrows* s.n. (Plate 3).

Zambia. Nyika, Chowo Forest, 1967, *Hilliard & Burtt* 4381 (E, NU).

***Streptocarpus wittei* De Wild. ✧●**

Single-leaved herb; leaves to 250 × 280 mm, broadly ovate, finely and densely hairy; flowers many-flowered, 50–60 mm long, blue; in rock cracks in rocky outcrops in montane grassland; 2,100 m. Malawi, Zambia, and D.R.C. Fairly conspicuous on the rocky outcrops of the Nyika grasslands when they flower in late summer.

Source. *Flora zambesiaca* 8(3): 50 (1988).

Malawi. Nyika National Park, Chowo Rocks, 1968, *Williamson, Ball & Simon* 1667 (SRGH); road from Zambian Rest House to Thazima, 2000, *Burrows & Burrows* 6336 (PRE).

Zambia. Nyika Plateau, 1961, *Benson* NR 474 (K).

HALORAGACEAE

***Gunnera perpensa* L. ✧**

Rhizomatous herb to 1 m tall; leaves large, tufted from the end of the rhizome, round to reniform, base cordate, margins toothed, minutely hairy, petiole 150–700 mm long; flowers small, pinkish, in slender spikes; in cool moist habitats along stream banks and marshes in upland areas above 1,500 m. South Africa to D.R.C. and Ethiopia. The collection below is the first record of this taxon from Malawi.

Malawi. Nyika National Park, Wovve River, 2000, *Willis* 154 (MAL, PRE, UZL).

***Laurembergia tetrandra* (Schott) Kanitz subsp. *brachypoda* (Welw. ex Hiern) A.Raynal var. *brachypoda* ✧**

Perennial herb, stems slender, characteristically reddish, trailing or more or less erect; leaves small, linear-elliptic, opposite or alternate; on grassy edges of swamps, marshes, moist grassland, streamsides; 0–2,200 m. Widespread in Africa.

Source. *Flora zambesiaca* 4: 75 (1978).

Zambia. Nyika Plateau, near N. Rukuru Waterfall, 1958, *Robson* 403 (K).

HETEROPYXIDACEAE

***Heteropyxis dehniae* Suesseng. ✧**

Deciduous tree 8–20 m tall, bark smoothish, silvery grey, mottled; leaves alternate, lanceolate to elliptic, finely hairy when young, glabrous and glossy with age, margins entire, venation prominent, leaves aromatic when crushed; flowers in loose terminal or axillary panicles, small; in mixed or miombo

woodlands, in riverine forest and on rocky hillsides, often at higher altitudes. South Africa, Mozambique, Angola, Zimbabwe, and Malawi.

Source. *Flora zambesiaca* 4: 213 (1978).

Malawi. Nyika National Park, Chisimuka, 2001, without collecting details (Patel & Overton 2002: 35).

HIPPOCRATEACEAE

***Simirestis goetzei* (Loes.) N.Hallé ex R.Wilczek ✧**

Hippocratea goetzei Loes.

Liane to 25 m high, stems 4-angled when young, green turning red-brown; leaves opposite, ovate to oblong or elliptic, glabrous, margin subentire to crenulate; flowers in axillary clusters, petals yellow-green, long (4.5–6 mm); fruit of 2 (or 3) flattened green elliptic wings; in evergreen forest, 1,300–

2,200 m. Malawi to Ethiopia.

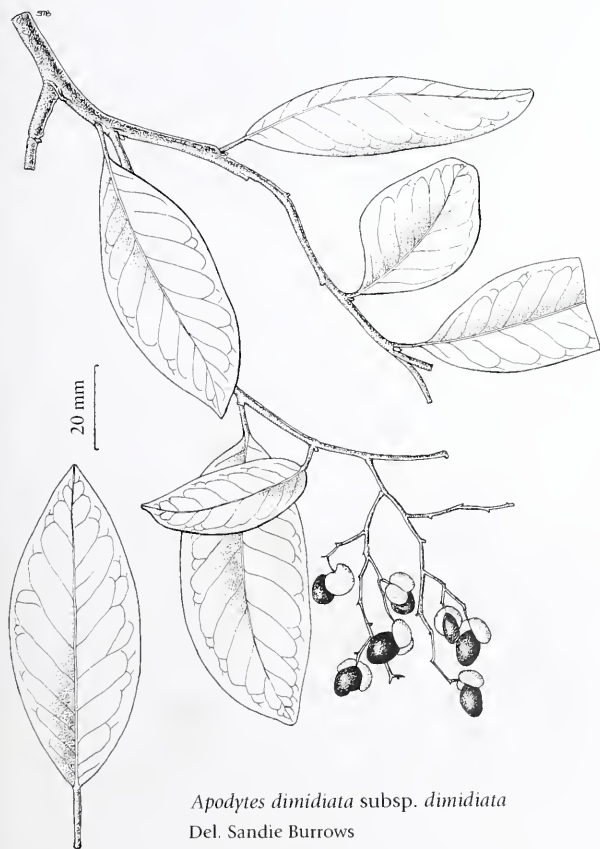
Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 320).

Zambia. Nyika Plateau, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 320).

Heteropyxis dehniae
Del. Sandie Burrows

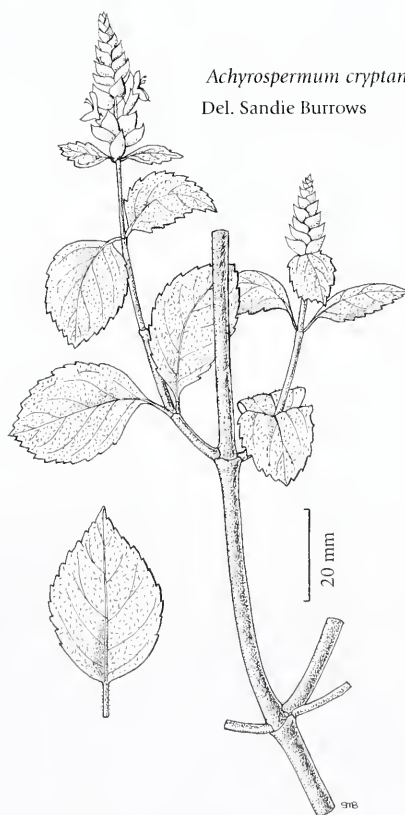


Simirestis goetzei
Del. Sandie Burrows



Apodytes dimidiata subsp. *dimidiata*
Del. Sandie Burrows

Achyrospermum cryptanthum
Del. Sandie Burrows



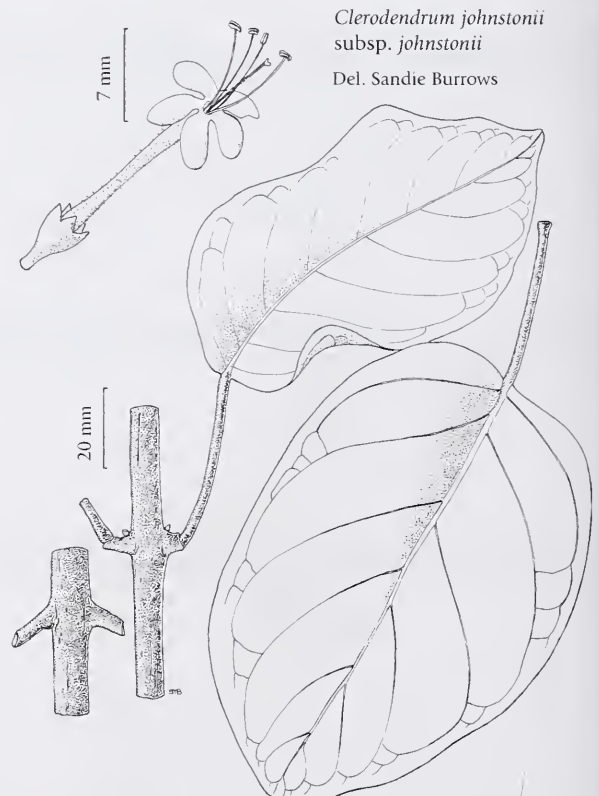
Acrotome tenuis
Del. Sandie Burrows



Aeollanthus buchnerianus
Del. Sandie Burrows



Aeollanthus subacaulis
var. *subacaulis*
Del. Sandie Burrows



Clerodendrum johnstonii
subsp. *johnstonii*
Del. Sandie Burrows

Excluded species

Reissantia buchananii (Loes.) N.Hallé

Hippocratea buchananii Loes.

This is a low-altitude species of dry scrub and woodland, often in mopane woodland, and is not recorded from above 1,050 m. It is therefore unlikely

that this species occurs on the Nyika.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

ICACINACEAE

Apodytes dimidiata E.Mey. ex Arn. subsp. **dimidiata** ✧

Chichewa: katole, lifefe, mchima, msusumba; *Timbuka:* mutututu, mzaza, zuzuma

Evergreen tree to 15 m tall, young branches purplish green; leaves alternate, ovate-elliptic to broadly elliptic, glossy green above, apex notched or rounded, midrib with an elastic thread when gently pulled apart; flowers

white, small, in large lax clusters; fruit small, black, glossy, with a red fleshy aril; in evergreen forest, riverine forest, and high-rainfall woodlands. South Africa to Angola and Kenya.

Source. Dowsett-Lemaire (1985: 314).

Malawi. Nyika National Park, Jalawe Viewpoint, 2000, *Chapama 208* (MAL); without locality or collecting details (Mill 1979).

LAMIACEAE

Achyropermum cryptanthum Baker ✧

Achyropermum nyasanum Baker; *Achyropermum swina* Perkins;

Achyropermum aethiopicum auct. non Welw.

Shrub 2–3.5 m or rarely a scrambler up to 11 m high; inflorescence terminal, corolla and calyx pink; in Afromontane forests and margins, 1,800–2,400 m. Also in Tanzania, N. Mozambique, and N.E. Zambia. Four species are known from Malawi (Chikuni 1999).

Source. Brummitt (1973); Chikuni (1999); White *et al.* (2001).

Malawi. Nyika National Park, Kawozya, forest E. of summit, 1972, *Brummitt & Syngé 213* (K, MAL); Zungwara road, 2000, *Burrows & Burrows 6885* (MAL, UZL, PRE); Jalawe Viewpoint, 2000, *Thera 3076* (MAL); Domwe, *Mwanyambo 564* (MAL).

Zambia. Nyika National Park, Chowo forest, *White 2536* (K?).

Zambia. Nyika Plateau, Chowo Rocks, 2,210 m, *Brummitt 10845* (K, PRE).

Aeollanthus rehmannii Gürke

Semi-succulent perennial herb to 500 mm tall, stems and leaves pubescent; leaves ovate to broadly ovate, petiolate, margin crenulate, usually reddish purple; bracts lanceolate to ovate-elliptic, acute or acuminate, overlapping only in bud stage; spikes compact, up to 40 mm long; corolla 7–11 mm long, flowers white to pale mauve-pink with reddish purple markings on upper lip; rocky, wooded places. Tropical Africa to South Africa.

Malawi. Nyika National Park, Fingira Rock, 2000, *Willis 208* (MAL, PRE).

Aeollanthus subacaulis (Baker) Hua & Briq. var. **linearis** (Burkill) Ryding

Herbaceous perennial with a rosette of basal leaves up to 50 mm long and decumbent flowering stems radiating from a subwoody tuber; cauline leaves much smaller, alternate, linear; bracts and stems often purple; corolla white; in grassland, often in shallow rocky soils. Cameroon, D.R.C., Burundi, and Malawi.

Malawi. Nyika National Park, Chosi Hill, 2000, *Winter 3993* (MAL, UZL, SRGH, PRE); Chelinda Bridge, 2,280 m, *la Croix 4401* (MO, PRE); 2000, *Mwanyambo 529* (MAL).

Acrotome tenuis G.Taylor ✧

Annual herb usually 200–300 mm tall, with widely spaced linear leaves, flowers white, borne in crowded verticils as in *Leucas* R.Br., but upper lip of corolla not hairy. Also known from the Iringa region in S. Tanzania.

Malawi. Nyika National Park, Fingira Rock, 2000, *Willis & Luhanga 219* (MAL, PRE).

Aeollanthus buchnerianus Briq. ✧

Aeollanthus njassae Gürke; *Aeollanthus canescens* Gürke; *Aeollanthus nyikensis* Baker

Semi-succulent perennial herb to 500 mm tall, stems and bracts usually hirsute to canescent; leaves ovate to broadly ovate, petiolate, margin crenate-dentate; bracts broadly ovate, obtuse, usually imbricate; flowers pale mauve to rosy pink; in shallow soil among rocks, in semi-shade. Tanzania to South Africa and Angola.

Malawi. Nyika Plateau, 1896, *Whyte 119* (K, holo. of *A. nyikensis*); Nthakati Peak, 2000, *Willis, Patel & Luhanga 143* (MAL, PRE); Chosi Viewpoint, 2000, *Kasakula 200* (LMA, SRGH, MAL); Chelinda Bridge, 2000, *Salubeni & Mwanambo 6776* (MAL).

Aeollanthus subacaulis (Baker) Hua & Briq. var. **subacaulis** ✧

Aeollanthus salicifolius Baker; *Aeollanthus rubescens* Gürke; *Icomum salicifolium* (Baker) Burkill

Herbaceous perennial with a rosette of basal leaves up to 100 mm long and decumbent flowering stems radiating from a subwoody tuber; cauline leaves much smaller, alternate, narrowly elliptic; corolla white; grassland, often in shallow rocky soils. D.R.C. (E. Shaba), Zambia, S. Tanzania, N. Malawi, Mozambique, and E. Zimbabwe.

Source. Patel (1999).

Malawi. Nyika National Park, Nthakati Peak, 2000, *Willis, Patel & Luhanga 132* (MAL, PRE); Chosi Hill, 2000, *Winter 3996* (MAL, UZL, SRGH, PRE).

Zambia. Nyika Plateau, Zambia Rest House area, 2000, *Phiri 3747* (UZL).

Aeollanthus engleri Briq.

Aeollanthus conglomeratus Baker

Short-lived perennial herb to 0.8 m tall; leaves linear-elliptic; inflorescence capitate with conspicuously congested pink-mauve bracts, flowers pale mauve or purple; in moist wooded grassland and dambos. Angola, Zambia, Malawi, and Mozambique.

Source. Brummitt (1973).

Malawi. Nyika National Park, half way from Nganda to Kawozya, 1972, *Brummitt & Syngé 168* (K, MAL).

Aeollanthus fruticosus Gürke

A low, soft-wooded bush up to 400 mm tall and 1 m across, upper stems and inflorescence axes dark purple; corolla pale lilac with dark spots on upper recurved lip. Often growing in moss on bare rock.

Malawi. Nyika National Park, 30 miles S. of Chelinda Camp on Nyika-Rumph Road, 5,500', *Goldblatt 4602* (MO, PRE).

Clerodendrum kirkii Baker

Shrub to 1.5 m, branches hairy; leaves whorled, shortly petiolate, oblong,

50–75 mm long, acute to cuspidate, base rounded, coarsely crenate, thinly hairy above, densely so below; flowers in terminal clusters, white; habitat unknown. Possibly confined to Malawi, but no modern mention of the species has been traced and therefore its current status and distribution is unknown.

Source. Baker (1900: 299).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Clerodendrum pleiosciadium Gürke

Clerodendrum syringiifolium Baker

Erect shrub 0.3–2 m tall, stems angular, bearing spine-like persistent leaf petiole bases; leaves in whorls of 3 or 4, ovate to oblong, base truncate to rounded; flowers white, sweet-scented, trumpet-shaped, ca 12 mm long; in forest, woodland, cultivation, and regeneration (*F.T.E.A.* 1992); 200–1,200 m. N.E. South Africa, Mozambique, Zimbabwe, Malawi, and Tanzania. This is a dubious record; if it is genuine, then it is certainly from the lowest point in the National Park and not strictly part of the plateau flora.

Source. *F.T.E.A.* Verbenaceae: 95 (1992).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Haumaniastrum lantanoides (S.Moore) P.A.Duvign. & Plancke

Acrocephalus lantanoides S.Moore

Suffrutex with one or several stems arising from a woody rootstock; stems hairy and glandular; leaves petiolate, elliptic to obovate, 15–50 × 4–20 mm, margin revolute or thickened; heads globose with prominent bracts, 5–15 mm in diameter, fruiting calyx 3.5–4.5 mm long, posterior lip of mature calyx obtuse, more or less equalling the emarginate anterior lip; in miombo or *Uapaca* woodland, often on stony or sandy ground on hill-sides, rarely reported from dambo margins or riversides; 1,200–1,800 m. From N. Malawi to Angola, along the D.R.C.–Zambia watershed.

Source. Paton (1997b).

Malawi. Nyika Plateau, 1903, *McClounie* 46 (K).

Haumaniastrum villosum (Benth.) A.J.Paton ✧

Acrocephalus callianthus Briq.; *Acrocephalus oligocephalus* Baker

Annual or short-lived perennial herb 0.1–1.6 m tall, similar to *Platostoma* in the whitish bracts subtending the inflorescence; hairs on stem mainly directed outward; petioles up to 10 mm long. If blade elliptic or ovate, 10–120 × 5–50 mm, margin weakly revolute or flat, upper leaves dark blue; posterior lip of mature calyx acute or obtuse, entire (usually hooded), exceeding the rounded to truncate anterior lip, corolla lilac; usually in moist areas in grassland and open woodland, also disturbed sites; 0–2,100 m. Widespread in tropical Africa and Madagascar.

Source. Brummitt (1973); Paton (1997b).

Malawi. Nyika National Park, head of Mondwe Valley, 1972, *Brummitt & Syngé* 241 (K, MAL, SRGH, LISC).

Isodon ramosissimus (Hook.f.) Codd ✧

Rabdosia ramosissima (Hook.f.) G.Murata; *Plectranthus ramosissimus* Hook.f.; *Plectranthus hoshundoides* Baker; *Homalocheilus ramosissimus* (Hook.f.) J.K.Morton

Perennial herb 0.7–1.7 m high, similar to *Plectranthus*, but with lower corolla lip much larger than the upper and almost flat; leaves ovate, broadly stalked, much paler beneath, shallowly round-toothed, ca 35 × 20 mm; inflorescence an axillary panicle of dichotomous cymes, sepal tube curved with all sepal teeth equal and triangular, flowers 10 mm long; corolla white with purple or maroon marks, tube straight, stamens long-exserted; locally common in grassland; 1,600–1,750 m. Mountains of tropical Africa.

Source. Brummitt (1973).

Malawi. Nyika National Park, S. slopes of Kawozya, 1972, *Brummitt & Syngé* 191 (K, MAL).

Leonotis decadonta Gürke var. **decadonta**

Leonotis leonurus sensu Brenan; ?*Leonotis leonorus* var. *vestita* Briq.

Large shrub of 4 m or small tree (up to 8 m with a 150 mm diameter trunk reported); leaves petiolate, up to 100 mm long, narrowly ovate, apex sub-

cute, densely velvety on both surfaces; flowers orange-red, in 1–4 whorls; flowering in the dry season, on forest edges and in regrowth. Known only from Malawi and N.E. Zambia.

Source. Brummitt (1973); White *et al.* (2001).

Malawi. Nyika National Park, N.W. foot of Nganda, 1972, 2,350 m, *Brummitt & Syngé* WC17 (K, MAL, SRGH, LISC, FHO, PRE, EA, UPS).

Zambia. Nyika Plateau, ca 2.5 miles S.W. of Rest House, 2,150 m, 1958, *Robson & Angus* 260 (K, PRE).

Leonotis myricifolia Iwarsson ined. ✧

Shrub 1.5–2(3) m tall; leaves subsessile, obovate, clustered on short shoots in axils of main stem leaves, resembling whorls; corolla bright orange; in drier wooded grassland areas and rocky upland miombo woodland. Endemic to S. Tanzania, N. Malawi, and just into Zambia. This species has been referred to as *L. pole-evansii* Hutch. from N. Zambia, to which it is very closely related, and which is characterised by the very prominently raised secondary venation on the underside of the leaf.

Source. Dowsett-Lemaire (1985); Y. Harvey (pers. comm.).

Malawi. Nyika National Park, N.W. foot of Nganda, 1972, *Brummitt & Syngé* WC15 (K, MAL, SRGH, FHO, PRE, EA); N. Rukuru River Valley, 2000, *Winter* 4124 (MAL, PRE); S. of Zovochipolo, 2,100 m, *la Croix* 4636 (MO, PRE).

Zambia. Nyika Plateau, Rest House area, 2000, *Phiri* 3862 (UZL).

Leonotis ocymifolia (Burm.f) Iwarsson var. **raineriana** (Visiani) Iwarsson

?*Leonotis mollissima* Gürke; ?*Leonotis velutina* Engl.

Subshrub 1.5–3 m high; leaves petiolate, ovate, base cordate, margin regularly toothed, up to 140 × 70 mm; calyx teeth 8, rigid, the uppermost much longer than the others; flowers in 1–3 terminal whorls, corolla dirty orange or rarely cream-coloured; in *Brachystegia* woodland, upland marshes, grassland, and forest margins. Widespread in eastern and southern Africa.

Source. White *et al.* (2001).

Malawi. Nyika National Park, N. of Thazima, ca 1,900 m, *la Croix* 4599 (MO, PRE).

Leucas deflexa Hook.f. var. **kondowensis** (Baker) Sebald ✧

Low-growing erect herb resembling a miniature *Leonotis* with slender, finely pilose or villous branches; leaves shortly petiolate, ovate or oblong-lanceolate, 25–50 mm long, deeply crenate or dentate, green and thinly hairy above, densely so beneath, apex acute, base usually cuneate; inflorescence in 1–2 whorls, remote, many flowered, bracts minute to large, linear, densely hairy, calyx finely pubescent, 8–12 mm long, throat oblique, lower side produced, tube funnel-shaped; teeth small, deltoid-cuspidate; upper lip of white corolla small, densely villous. Widespread in tropical Africa. The inclusion here of *Winter* 4106 is tentative.

Source. Brummitt (1973).

Malawi. Nyika National Park, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Syngé* 139 (K, MAL); Domwe road, 2000, *Winter* 4106 (MAL, K, PRE).

Leucas megasphaera Baker

Perennial herb with slender, square, pubescent stems; leaves shortly petiolate, oblong-lanceolate, 25–75 mm long, shallowly crenate, densely hairy on both surfaces; whorls 1–2, many-flowered, subtended by large leaves, bracts large, linear, densely hairy, calyx densely hairy, upper teeth linear, lower small, ovate, acuminate, corolla tube as long as the calyx, upper lip 8 mm long, densely clothed with white hairs. Distribution outside Nyika unknown.

Source. Baker (1898: 163).

Malawi. Nyika Plateau, 6,000–7,000', 1896, *Whyte* s.n. (K?).

Ocimum decumbens Gürke ✧

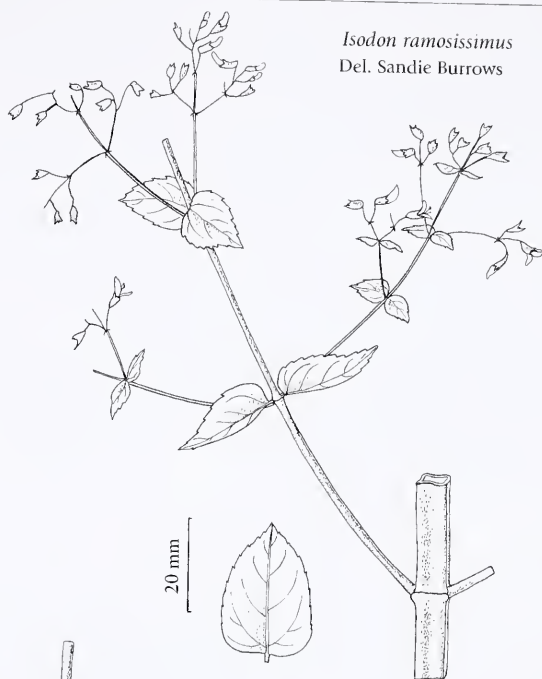
Becium capitatum Agnew

Aromatic perennial herb with several erect or decumbent stems from a thick, woody rootstock, rarely a shrub, 1.5–5.0 m tall, hairy and glandular; leaves opposite or whorled, usually deflexed, petioles 0.5–5 mm long, blades often folded along midrib, 5–22 × 3–14 mm, entire or serrate; inflorescence with verticils touching in flower, but up to 25 mm apart in fruit, fruiting calyx 6–9 mm long; in grassland; 1,300–3,100 m. Angola, D.R.C., Zambia, Uganda, Kenya, Tanzania, and Malawi.

Haumaniastrum villosum
Del. Sandie Burrows



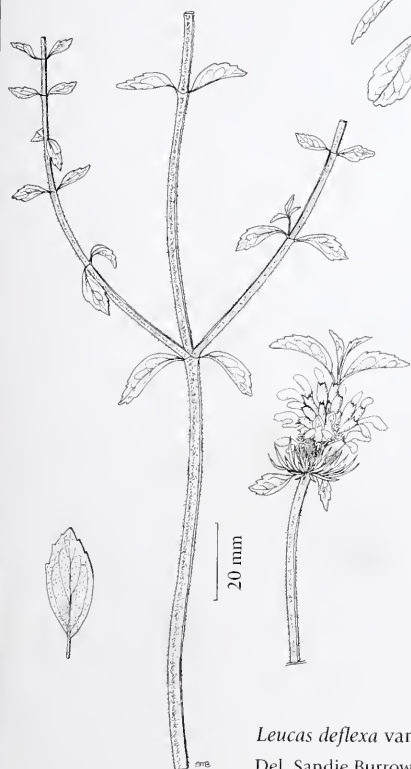
Isodon ramosissimus
Del. Sandie Burrows



Leonotis myricifolia
Del. Sandie Burrows

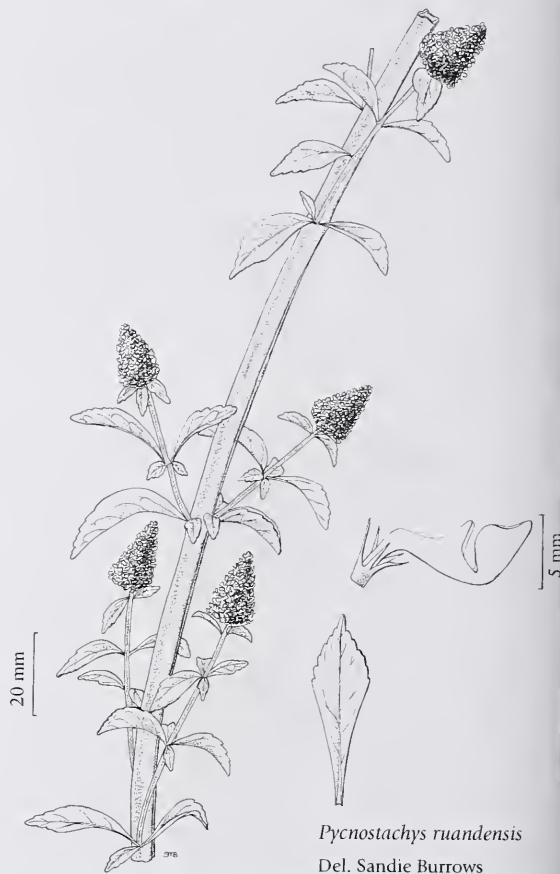
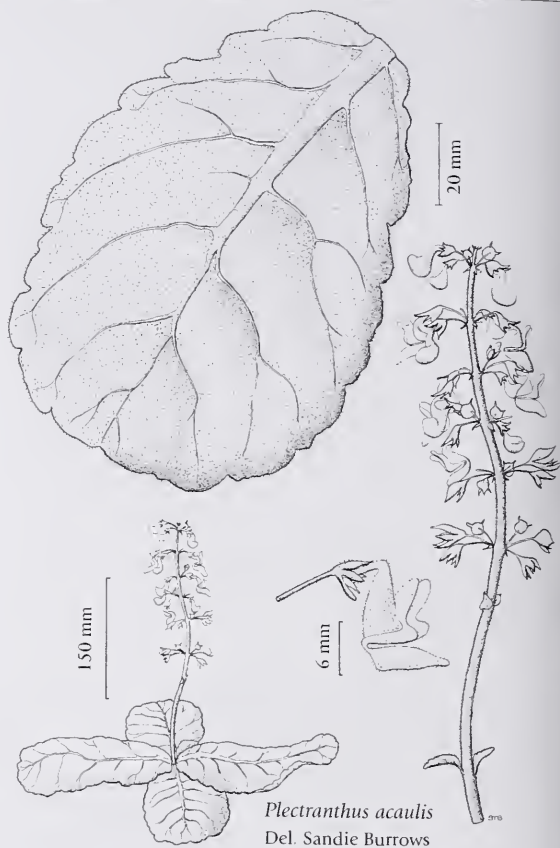
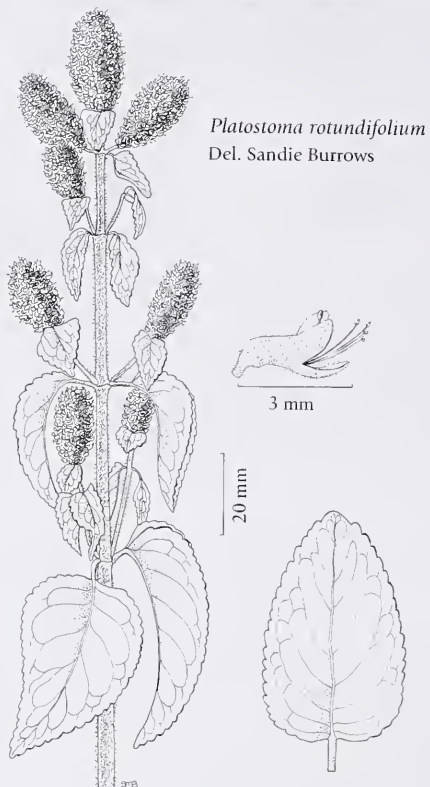


Leucas deflexa var. *kondowensis*
Del. Sandie Burrows



Ocimum decumbens
Del. Sandie Burrows







Adiantum reniforme



Vittaria guineensis var. *orientalis*



Drynaria volkensii



Asplenium loxoscaphoides



Asplenium megalura

GYMNOSPERMS

Forest scene



Juniperus procera





Helichrysum tillandsiifolium



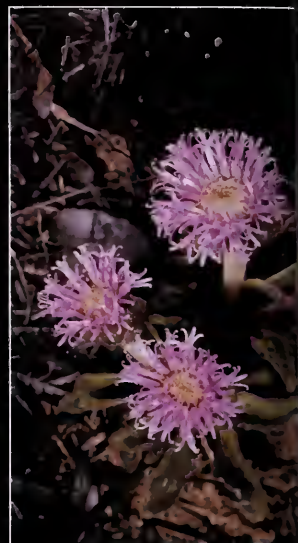
Tylophora erubescens



Helichrysum forskahlii var. *forskahlii*



Gerbera piloselloides



Vernonia praemorsa



Impatiens sp. A



Impatiens gomphophylla subsp. *gomphophylla*



Impatiens polyantha



Impatiens tinctoria subsp. *latifolia*



Brachystegia longifolia



Isoberlinia angolensis



Fulbernardia globiflora



Crassula alba var. *alba*



Acacia abyssinica



Erythrina abyssinica



Uapaca robynsii



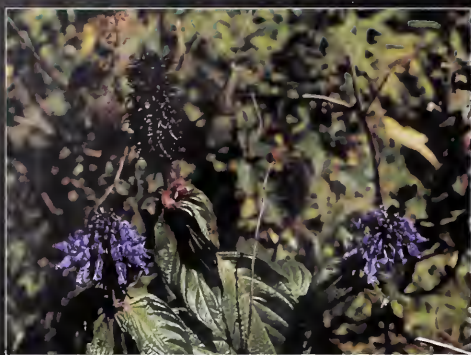
Kotschy recurvifolia



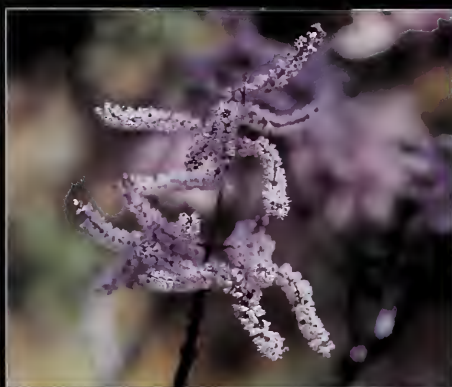
Streptocarpus solenanthus



Streptocarpus wittei



Pycnostachys schliebenii



Tetradenia riparia



Lobelia giberroa



Lobelia stricklandiae



Scutellaria schweinfurthii subsp. *pauciflora*



Lobelia trullifolia subsp. *trullifolia*



Dissotis melleri



Dissotis princeps var. *princeps*



Oxalis chapmaniae



Lobelia mildbraedii



Protea angolensis var. *angolensis*



Protea angolensis var. *divaricata*



Protea heckmanniana subsp. *heckmanniana*



Protea kibarensis subsp. *cuspidata*



Protea madiensis subsp. *madiensis*



Protea rupestris



Clematis chrysocarpa subsp. *bijuga*



Delphinium dasycaulon



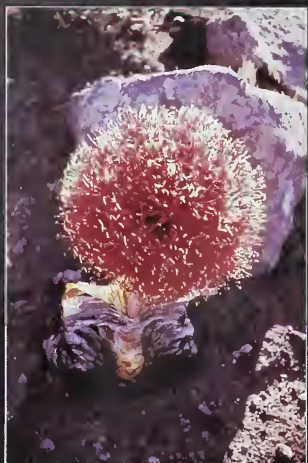
Dombeya burgessiae



Delphinium leroyi



Pentanisia schweinfurthii



Boophane disticha



Cyrtanthus breviflorus



Scadoxus multiflorus subsp.
multiflorus



Raphia farinifera



Aloe mzimhana



Aloe nuttii



Cyperus angolensis



Setaria grandis



Ensete ventricosum



Kniphofia grantii



Kniphofia princeae



Kniphofia linearifolia



Gladiolus dalenii



Gladiolus dalenii



Gladiolus muenzneri



Gladiolus velutinus



Dierama longistylum



Lapeirousia setifolia



Moraea macrantha



Brachycorythis pleistophylla



Disa caffra



Disa hircicornis



Disa robusta



Disa ukingensis



Disa welwitschii
subsp. *welwitschii*



Disa zombica



Epipactis africana



Habenaria diselloides



Habenaria trachypetala



Satyrium trinerve



Satyrium buchananii



Polystachya dendrobiiflora



Satyrium crassicaule



Satyrium monadenum



Satyrium sceptrum

Source. Paton (1995).

Malawi. Nyika National Park, Domwe road, 2000, *Winter 4082* (MAL, UZL); Domwe, 2000, *Mwanyambo 567* (MAL).

Ocimum gratissimum* L. subsp. *gratissimum* var. *gratissimum

Ocimum suave Willd.; *Ocimum urticifolium* Roth; *Ocimum trichodon* Gürke

Aromatic perennial herb 0.6–2.5 m high, stems erect; leaves 35–150 x 85 mm, petiole more than 5 mm long, margin serrate; inflorescence of dense, terminal spikes; calyx throat closed in fruit, as the lower lip presses against upper lip; in submontane forest or moist savanna; 0–1,500 m. Widespread in the tropics.

Source. Paton (1992); Brummitt (1973).

Malawi. Nyika National Park, Chipome Valley, 1972, *Synge 271* (K).

Ocimum obovatum* E.Mey. ex Benth. subsp. *obovatum* var. *obovatum

Ocimum odontopetalum C.H.Wright; *Becium grandiflorum* var.

obovatum (E.Mey. ex Benth.) Sebald pro parte

Suffrutex with erect or rarely decumbent annual stems from a woody rootstock, or shrub up to 1.5 m tall; leaves opposite or whorled, green, purple or grey, glabrous to densely hairy, 15–150 x 2–40 mm, mostly 3 or more times longer than wide, apex acute to rounded, base cuneate or attenuate; upper lip of calyx obovate, exceeding the calyx tube by 1.5 mm or less, apex rounded, sometimes mucronate; in wooded grassland or open *Acacia* or miombo woodland; 100–2,100 m. Widespread in tropical and South Africa and Madagascar.

Source. Paton (1995).

Malawi. Nyika National Park, Nyika Plateau, without locality, 1903, *McClounie 30* (K); near Chosi Beacon, *Kettle 5* (PRE).

Zambia. Nyika Plateau, Chowo Rock area, 1975, *Pawek 10308* (UC, K, MO, SRGH, MAL, PRE).

***Ocimum obovatum* E.Mey. ex Benth. subsp. *obovatum* var. *galpinii* (Gürke) N.E.Br.**

Ocimum kapiense DeWild.

As for var. *obovatum*, but with the leaves 15–65 x 15–35 mm, mostly less than 3 times longer than wide, in Afromontane or mist belt grassland, or open *Protea*, *Uapaca* or miombo woodland; 1,500–2,450 m. Tropical and South Africa.

Source. Paton (1995).

Malawi. Nyika National Park, Nyika Plateau, *Pawek 10267* (K).

Zambia. Nyika Plateau, *Fanshawe 7347* (K, NDO).

***Ocimum obovatum* E.Mey. ex Benth. subsp. *crystallinum* (A.J.Paton) A.J.Paton**

Becium obovatum subsp. *crystallinum* A.J.Paton

As for var. *obovatum*, but with leaves opposite (not whorled), ascending or spreading, base cuneate; upper lip of the calyx obovate, exceeding the calyx tube by 1.5 mm or less, apex rounded, sometimes mucronate; in grassland and miombo woodland, 1,980–2,300 m. Known only from Nyika Plateau and the Livingstone Range in Tanzania.

Source. Paton (1995); Brummitt (1973)

Malawi. Nyika National Park, Nyika Plateau, Sawi Valley, 1972, *Synge WC451* (K); Escarpment below Jalawe Viewpoint, 1992, *Goyder & Paton 3570* (K, MAL).

***Ocimum punctatum* Baker**

Becium obovatum subsp. *punctatum* (Baker) A.J.Paton

Suffrutex with erect or ascending, annual, hairy stems from a woody rootstock; leaves opposite or whorled, often thick-textured, ascending or spreading, broadly elliptic, usually less than 4 times longer than wide, base cuneate or attenuate; calyx upper lip elliptic to triangular, exceeding the calyx tube by more than 1.5 mm; often on wet or peaty soil; 1,800–2,400 m. Known from Tanzania, the adjacent region of Zambia, and Malawi.

Source. Paton (1995); Paton et al. (1999).

Malawi. Nyika National Park, Nyika Plateau, Rukuru Bridge, *Phillips 733* (K).

***Platostoma rotundifolium* (Briq.) A.J.Paton ❖**

Geniosporum rotundifolium Briq.; *Geniosporum angolense* Briq.;

Geniosporum paludosum Baker; *Ocimum kouanense* A.Chev.

Erect herb from a woody rootstock, to 1 m tall; leaves ovate, apex acute or rounded; inflorescence purple, subtended by white bracts with green tips, flowers blue, calyx with 4 teeth; fruiting calyx round in cross section, anterior and posterior lobes not splitting apart, throat closed by median lobe of anterior lip; anterior lip 3-lobed with one median lobe, posterior lip acute, not decurrent; nutlets apically rounded; in wetlands or moist grassland. Widespread in Africa.

Source. Brummitt (1973); Paton (1997a).

Malawi. Nyika National Park, S. slopes of Kawozya, 1972, *Brummitt & Syngé 171* (K, MAL); Dembo Bridge, 2000, *Winter 4038* (MAL); Lusele River, 2000, *Salubeni & Mwanambo 6804* (MAL).

Zambia. Below Chowo Rock, 1,830 m, *Chapman 736* (PRE, SRGH).

***Platostoma strictum* (Hiern) A.J.Paton**

Geniosporum strictum Hiern; *Geniosporum baumii* Gürke

Leaves narrowly obovate; inflorescence subtended by white bracts with green tips, fruiting calyx round in cross section, anterior and posterior lobes not splitting apart, throat closed by median lobe of anterior lip, anterior lip 3-lobed with one median lobe, posterior lip acute, not decurrent; nutlets apically rounded; in wetlands or moist grassland. Angola, Zambia, Malawi, and Zimbabwe.

Source. Paton (1997a).

Malawi. Nyika National Park, Dembo River, 2000, *Winter 4031* (MAL, UZL); 2000, *Willis 16* (MAL, PRE).

***Plectranthus acaulis* Brummitt & Seyani ❖**

Suffrutex with woody rootstock and solitary rosette of 4(6) large leaves flat on the ground in the form of a cross, stem 0–20 mm long, with a solitary inflorescence arising from the centre; inflorescence with (1)2–3(4) pairs of branches, corolla violet to purple; grassland and forest margin; 2,190–2,250 m. Known only from a few square kilometres on the Malawi-Zambia border on the western side of the Nyika Plateau, and Mt. Waller to the E. of the Nyika Plateau.

Source. Brummitt & Seyani (1987).

Malawi. Mt. Waller, 1932, *Sanderson s.n.* (BM); Nyika National Park, road from Zambian Rest House to Chelinda, 2000, *Winter 4028* (MAL).

Zambia. Nyika Plateau, road to Rest House, 2,100 m, 1959, *Richards 10392* (K).

***Plectranthus alboviolaceus* Gürke**

Woody shrub 2–3 m high; foetid; leaves ovate, nettle-like, base attenuate; racemes shortly branched, flowers pale purple or white, with mauve marks on lip, sepals to 6 mm long in fruit, both lips of corolla under 3 mm long; in Afromontane forest understorey, margins, and forest openings, 1,700–2,180 m. Kenya, Tanzania, N.E. Zambia, Malawi, and Mozambique (Mt. Namuli).

Source. White et al. (2001).

Malawi. Nyika National Park, E. Nyika, 2,400 m, 1946, *Brass 17317* (PRE); Zovochipolo, 2,225 m, *la Croix 4627* (MO, PRE).

***Plectranthus alpinus* (Vatke) O.Ryding**

Coleus alpinus Vatke; *Coleus assurgens* Baker; *Plectranthus assurgens* (Baker) J.K.Morton

Similar to *P. sylvestris*, but with frequently trailing stems, and bright red sessile glands on leaves and flowers; leaves broad-ovate, almost circular or square, sometimes coarsely toothed; racemes unbranched, sepals curved, enlarging to 4 mm in fruit, upper tooth no longer than, but twice as wide as others, corolla with upper lip about as long as the lower; lower lip 6–10 mm long; in forest understorey. Ethiopia to Malawi.

Malawi. Nyika National Park, Juniper Forest, 2,135 m, *Brummitt 10888* (K, PRE).

***Plectranthus baumii* Gürke**

Holostylon baumii (Gürke) G.Taylor

Shrub with many branching and arching stems, woody at base, up to 2–3 m high, from common stock; inflorescence a lax panicle to 500 mm long,

corolla blue; *Brachystegia* or *Uapaca* woodland, flowering at start of dry season, with last leaves or after leaves have dropped. Angola, Botswana, Zimbabwe, Zambia, D.R.C., and Malawi.

Malawi. Nyika National Park, S. slopes of Kawozya, 1972, 1,675 m, Brummitt & Sygne 223 (K, MAL, PRE, SRGH, LISC); Sawi Valley, 1972, 1,465 m, Sygne 406 (K, MAL, EA, PRE).

***Plectranthus buchananii* Baker**

Coleus scaposus C.H.Wright; *Coleus buchananii* (Baker) Brenan; *Coleus hockii* De Wild.

Perennial; leaves oblong, deeply crenate, narrowed gradually to a sessile base or a distinct petiole, membranous, shortly hairy on both sides, lower leaves 150–180 mm long, 76 mm wide at the middle; inflorescence racemose, lax, 300 mm or more long, flowers 15–20 in a whorl, pedicels pubescent, finally 6–8 mm long; fruit calyx 6 mm long, upper tooth large, ovate, 4 lower teeth large cusps, corolla 8–13 mm long. D.R.C. to Malawi.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Plectranthus daviesii* (E.A.Bruce) B.Mathew**

Coleus daviesii E.A.Bruce

Scrambling shrub to 3 m tall, stem and leaves glabrous; flowers white; in evergreen forest margins and clearings. Known elsewhere only from S. Tanzania.

Source. Brummitt (1973).

Malawi. Nyika National Park, 5 km N.E. of Nganda, 1972, Sygne 285 (K, MAL, SRGH); near Chosi Viewpoint, 2000, Koekemoer 1692 (MAL, PRE); Kasaramba Road, 2,450 m, 1976, Pawek 11807 (PRE, MO, UC, K, SRGH, MAL).

***Plectranthus esculentus* N.E.Br.**

Plectranthus densus N.E.Br.; *Plectranthus prinulinus* Baker; *Plectranthus floribundus* N.E.Br. non Baker

Perennial, 1 m tall; inflorescence on leafless flowering stems, in short, very dense oblong racemose panicles 40–55 mm long, cymes sessile, pedicels very short, flowers yellow. Widespread in tropical Africa. Nyika collections seem to represent *P. prinulinus* or *P. densus*, with relatively dense, short inflorescences, together with specimens from N.W. Zambia to S. Tanzania. Recognition at varietal rank may be more useful for these populations, since the typical form of *P. esculentus* is expected at lower altitudes only. Similar to *P. kaptensis*.

Source. Brummitt (1973); PRE.

Malawi. Nyika National Park, N.W. foot of Nganda, 1972, Brummitt & Sygne 46 (K, MAL); near dam #3, 2,300 m, la Croix 4147 (MO, PRE); Chelinda Mountain, Kettle 1 (PRE); 2 miles S.W. of Rest House, 2,150 m, 1958, Robson 190 (K, PRE).

***Plectranthus goetzii* Gürke**

Plectranthus salubeni Brummitt & Seyani

Slender perennial herb 450–600 mm tall with a single roundish tuber just below ground level, stem solitary or paired, arising from its crown; leaves (10)30–60(100) x (2)3–15(23) mm, entire or minutely serrate towards the apex; inflorescence with gland-tipped hairs, simple or with a single pair of small basal branches, corolla white to pale blue; in grassland and *Brachystegia* woodland; 1,000–3,000 m. Central and N. Malawi, S. Tanzania, and Zambia.

Source. Brummitt & Seyani (1987).

Malawi. Nyika Plateau, without precise locality, 1965, Cottrell in GHS 166157 (K, MAL, SRGH); Chelinda, 7,500', 1974, Pawek 7859 (K, MO, SRGH, UC).

Zambia. Nyika Rest House, 2,100 m, 1959, Richards 10409 (K).

***Plectranthus gracilis* Suesseng.**

Plectranthus seyanii A.J.Paton & Brummitt

Annual herb similar to *P. stenosphon* and *P. modestus*, but with longer pedicels. Zimbabwe to Malawi and adjacent countries.

Source. Paton & Brummitt (1991).

Malawi. Nyika Plateau, 1,800 m, 1896, Whyte s.n. (K).

***Plectranthus herbaceus* Briq.**

Coleus herbaceus (Briq.) G.Taylor

Erect annual, 0.3–0.9 m tall, stems branched, fragile, glabrous; leaves shortly petioled, ovate, membranous, margin crenate, base attenuate; cymes long, forked, scorpioid, pedicels very short, fruit calyx glabrous, 6.5 mm long, tube campanulate, upper lip orbicular, corolla twice as long as the calyx; in shade, in miombo woodland. Angola to E. Africa.

Malawi. Nyika National Park, Fingira Rock area, 2000, Winter 4227 (MAL, UZL, SRGH, LMA, PRE).

***Plectranthus kaptensis* (R.E.Fr.) J.K.Morton**

Coleus kaptensis R.E.Fr.

Very similar to *P. esculentus*, but with mauve flowers.

Malawi. Nyika National Park, between Chisanga Falls and Kaperekezi Gate, 2000, Salubeni & Mwanyambo 6830 (MAL).

***Plectranthus katangensis* DeWild.**

Holostylon katangense (DeWild.) Robyns & Lebrun; *Plectranthus hockii* DeWild.

Pyrophytic herbaceous perennial to 500 mm tall, with woody rootstock; flowering at the end of the dry season; inflorescence to 250 mm long, arising directly from base of old leafless stem below soil surface, leaves following later (on different stems); flowers sky blue, paler at base; in wooded grassland. Angola, S.E. D.R.C., N. Zambia, S. Tanzania, and Malawi (Nyika Plateau).

Malawi. Nyika National Park, N.W. foot of Nganda, 1972, Sygne 375 (K, MAL, SRGH, LISC); Main Road, 2,000 m, la Croix 4043 (MO, PRE); Main Road to ca 2 miles S.W. of Rest House, 2,150 m, 1958, Robson 188 (PRE).

***Plectranthus laxiflorus* Benth.**

Gernmea laxiflora (Benth.) Hiern; *Coleus laxiflorus* (Benth.) Roberty pro parte

Weak shrub or scrambling herb up to 4 m; leaves almost hairless, long stalked, coarsely toothed, to 70 mm long, base cordate to abruptly cuneate; inflorescence large, terminal, more or less leafless, flowers in 3s, shortly pedunculate, with small non-leafy bracts subtending the peduncles, sepals 6–7 mm long, upper lobe rounded, corolla white with blue veins, to 8 mm long; in montane forest. E. Africa to South Africa. An apparent geographical variant of *P. laxiflorus* occurs here [N.E. foot of Nganda, Brummitt & Sygne 119 (K, MAL)] and in S. Tanzania in which the flowers are produced sparingly (often solitary) in the axils of normal leaves rather than in large terminal more or less leafless inflorescences with small non-leafy bracts subtending the peduncles (Brummitt 1973, 1976).

Source. Brummitt (1973, 1976).

Malawi. Nyika National Park, forest 3 km E. of Nganda, 1972, Brummitt & Sygne 89 (K, MAL, SRGH, UPS).

***Plectranthus malawiensis* B.Mathew**

Coleus nyikensis Baker

Semi-succulent much-branched erect shrublet to 350 mm tall, stems woody, hairy; leaves appearing with the flowers, shortly petiolate, thick, more or less fleshy (succulent), 5-nerved from the base, red, hairy mainly on the veins beneath, ovate, to 20 x 10 mm, entire, apex obtuse, base not cordate; cymes many-flowered, distinctly pedunculate, arranged in a dense, oblong, racemose inflorescence 25–38 mm long, pedicels short, pubescent; fruit calyx pubescent, 3 mm long, tube campanulate, teeth small, upper tooth ovate, lower teeth as long, narrowly ovate, flowers royal blue, corolla hairy, 8.5 mm long, lower lip as long as tube; in rocky areas. Known only from the Nyika Plateau and the Mafinga Mountains of Zambia.

Source. Mill (1979); Brummitt (1973 & 1976).

Malawi. Nyika National Park, Kawozya summit, 1972, Brummitt & Sygne WC199 (K, MAL, SRGH, LISC, PRE, EA); Nyika Plateau, 1896, Whyte s.n. (K, holo.); Chelinda Mountain, Kettle 2 (PRE).

***Plectranthus masukensis* Baker**

Plectranthus brevipes Baker

Annual or ?perennial (*P. brevipes*) erect herb, similar to *P. sylvestris*, but with smaller flowers; leaves ovate-triangular, glabrescent to pubescent (*P. brevipes*); flowers 1–3 per whorl, white or mauve on an axis with long hairs, sepals to 4 mm long, longer than fruit stalk, lower lip of corolla 2–

3 mm long, upper lip much shorter; in montane forest margins or shady areas among rocks. Eastern Africa. The long petiole and obtuse to truncate leaf base distinguish it from *P. herbaceus*.

Source. Baker (1900)

Malawi. Nyika Plateau, 6,000–7,000', 1896, *Whyte* s.n. (K?); Zovochipolo Forest margin, 2000, *Winter 4129* (MAL, PRE, UZL); N.E. of Mwanda Ridge, 2000, *Winter 4169* (MAL, PRE).

***Plectranthus modestus* Baker**

Englerastrum modestum (Baker) T.C.E.Fr.; *Coleus modestus* (Baker)

Robyns & Lebrun

(Perennial?) herb with small globose tubers; leaves narrowly oblong or obovate, greyish; verticils invariably one-flowered, pedicels shorter than in *P. gracilis*, flowers blue; in grassland. Similar to *P. stenosisiphon*. Distribution not established.

Source. Mill (1979).

Malawi. Nyika National Park, ca 1 km W. of Chelinda Bridge, ca 2,400 m, 1992, *Goyder, Paton & Tawakali 3545* (PRE).

***Plectranthus nyikensis* Baker**

A much-branched undershrub, with woody hairy stems; leaves shortly petiolate, firm, green and hairy on both surfaces, broadly ovate or suborbicular, 9–25 mm long, apex obtuse, base broadly rounded; cymes few-flowered, umbellate, arranged in longish lax racemose panicles, bracts small, ovate, leafy, pedicels densely hairy, 4 mm long, calyx densely hairy, 4 mm long, tube campanulate, teeth small, deltoid, subequal, corolla 13 mm long; stamens included. Malawi.

Source. Baker (1900).

Malawi. Nyika Plateau, 6,000–7,000' 1896, *Whyte 162* (K?).

***Plectranthus pubescens* Baker**

Erect perennial, with branched stems, densely hairy stems and with red sessile glands; leaves distinctly petioled, broadly ovate, 25–40 mm long, acute, base shallowly cordate, deeply crenate, membranous, green and densely hairy on both surfaces; inflorescence in lax whorls, arranged in a long racemose panicle, bracts minute, pedicels pubescent, 3 mm long, fruit calyx pubescent, 4–8 mm long, teeth small, subequal, deltoid or lanceolate-deltoid, corolla 13 mm long, white or pale mauve; stamens included; in wooded grassland. Malawi and tropical E. Africa.

Source. Baker (1900).

Malawi. Nyika Plateau, 7,000', 1896, *Whyte* s.n. (K?).

***Plectranthus schizophyllus* Baker**

Calchas schizophyllus (Baker) P.V.Heath

Erect herb to 500 mm with occasional small easily detachable tubers; leaves divided into linear segments 1–3 mm wide, mostly hairy below with revolute margins; corolla white, lips bluish purple, filaments bluish, anthers dark purple; in montane grassland. S. Tanzania to Nyika.

Malawi. Nyika National Park, end of road by Dembo River, 2,225 m, 1972, *Brummitt 10674* (K, PRE); road junction S.E. of Zambian Rest House, 2000, *Winter 4003* (MAL, UZL, SRGH); Chosi Viewpoint, 2000, *Chapama 139* (MAL); Mwanda Mountain, 2000, *Willis 186* (MAL, UZL, PRE).

Zambia. Nyika Plateau, Chowo Rocks, 2,210 m, *Brummitt 10863* (K, PRE).

***Plectranthus* sp. nov., aff. *P. schizophyllus* Baker**

Erect herb with small tubers; leaves rhombic, with upper margins deeply toothed; flowering purple, corolla white with pale blue lower lip, darker at tips of lips [flowers lilac on the Viphy plateau, *la Croix 3711* (PRE)]; in montane grassland. Apparently restricted to N. Malawi.

Malawi. Nyika National Park, Chosi Hill, 2000, *Winter 3991* (MAL, UZL); Chelinda Camp, chalet no.3, edge of *Pinus* plantation, 2,285 m, *Brummitt 10903* (PRE); Chelinda Bridge, 2,280 m, *la Croix 4347* (MO, PRE).

***Plectranthus shirensis* (Gürke) A.J.Paton comb. nov. ✧**

Coleus shirensis Gürke in Engl. Jahrb. 19:216 (1894). Lecto. (Mathew, in Brummitt 1976): Malawi (southern region), without locality, *Buchanan 376* of 1891 collection (K).

Solenostemon shirensis (Gürke) Codd; *Solenostemon shirensis* (Gürke)

Mathew nom illeg.; *Calchas shirensis* (Gürke) P.V.Heath; *Coleus*

punctatus Baker; *Solenostemon zambesiacus* Baker

Subshrub to 2(4) m tall; leaves aromatic (mint-like), ovate, pointed, long hairy below and with teeth less than 2 mm deep; racemes simple, dense, flowers blue, lilac or purple, lower lip of corolla to 8 mm long, fruiting sepals 5–6 mm long; on edges of montane rainforest, and inside riparian forest and swamp forest; 1,680–3,000 m. Kenya to Zimbabwe.

Source. Brummitt (1973, 1976).

Malawi. Nyika National Park, Sawi Valley, 1972, *Synge 408* (K, MAL, SRGH).

***Plectranthus stenosisiphon* Baker**

(Perennial?) herb with decumbent stems; calyx more or less equally toothed, as in *P. modestus* and *P. gracilis*; flowers white with blue markings, pedicels shorter than in *P. gracilis*; in grassland. Malawi.

Source. Mill (1979); PRE.

Malawi. Nyika National Park, 1,250 m, *Phillips 1809* (MO, PRE).

***Plectranthus sylvestris* Gürke**

Soft-stemmed sparsely branched shrub 2–3 m tall, with yellow sessile glands on leaves and flowers; leaves glabrous to obscurely hairy on the ribs below, ovate, petiolate, often straight-edged at the base, apex attenuate; inflorescence usually branched; flowers similar in shape to *Solenostemon* spp., usually on long stalks in many-flowered whorls, large, sky-blue, upper lip with white spots, about as long as lower lip; sepals enlarging to 8 mm in fruit, upper tooth as long as the others; forest openings, 1,600–2,200 m. Ethiopia, Rwanda (D.R.C. border), E. Africa, N.E. Zambia, and Malawi (Nyika National Park). Similar to *P. alpinus*.

Malawi. Nyika National Park, Juniper Forest Reserve (Dowsett-Lemaire 1985: 348); Zambian border, without precise locality, *Dowsett-Lemaire 114* (K?).

Zambia. "Zovochipolo forest patch (Zambian side)" (Dowsett-Lemaire 1985: 329).

***Plectranthus thyrsoides* (Baker) B.Mathew**

Coleus thyrsoides Baker

Erect, strongly aromatic and sticky shrub with woody branches, 0.6–1.1 m tall; leaves deflexed and folded up along the midrib, margin coarsely toothed, lower leaves to 175 x 100 mm, with prominent hairy nerves below, base shortly attenuate, upper leaves smaller, shorter-petioled; inflorescence pedunculate, dense-flowered cymes of shortly-pedicelled flowers, bracts leafy, decreasing in size and incision toward the top, calyx very small, tube roundish, hairy, upper lobe obovate-spathulate, about as long as tube, hairy, side lobes about half as long as upper, narrowly oblong-spathulate, lower about as long as sides, ovate-falcate, corolla 12.5 mm long, bright blue, tube S-shaped, throat laterally compressed; in rocky grassland; 1,830–2,400 m. Malawi, Zambia, and Zimbabwe.

Source. Baker (1900); Brummitt (1973, 1976).

Malawi. Nyika Plateau, 6,000–7,000', 1896, *Whyte* s.n. (K?); Kawozya Summit, 1972, *Brummitt & Synge 210* (K, MAL, SRGH, LISC).

Zambia. Nyika Plateau, Mwanda Ridge, W. of summit, 2,400 m, 2000, *Willis 198* (MAL, PRE, UZL); 2000, *Winter 4189* (UZL, MAL).

***Plectranthus viphyensis* Brummitt & Seyani**

Perennial herb, apparently with woody rhizomes and vertical fusiform tubers, stem (without inflorescence) 150–550 mm long; leaves 40–140 x 40–170 mm, broadly heart-shaped to more or less reniform, petiole 10–30 mm long, base cordate, margin conspicuously crenate to bicrenate; inflorescence with 1–3 pairs of ascending branches, corolla violet to purple; in montane grassland, particularly on granite rock outcrops, 1,650–1,830 m. Well-known from the Viphy Plateau of Malawi, with a single collection from the Nyika Plateau.

Source. Brummitt & Seyani (1987).

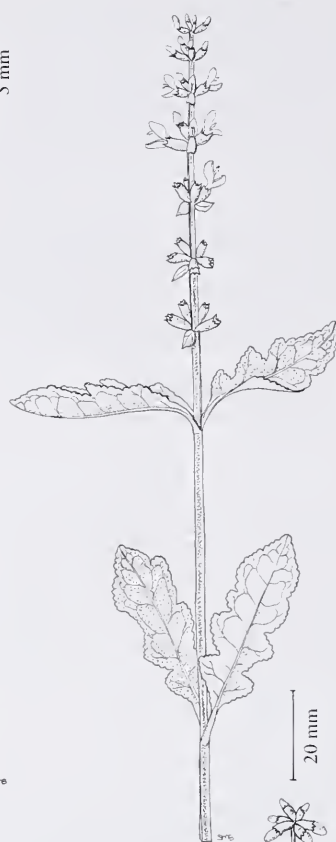
Malawi. Nyika Plateau: road from Nyika Rest House, lower part of plateau, 1,800 m, 1959, *Richards 10537* (K).

***Plectranthus zebrarum* Brummitt & Seyani**

Suffrutescent, with woody rootstock, stems several, 70–260 mm long (without inflorescence); leaves 40–120 x 20–80 mm, ovate to elliptic, sessile or with a petiole up to 10 mm long, base subcuneate or rounded to subcordate, margin conspicuously crenate to bicrenate to almost serrate to biserrate; inflorescence with (0)1–2 pairs of ascending branches, corolla violet to



Rothea quadrangulata
Del. Sandie Burrows



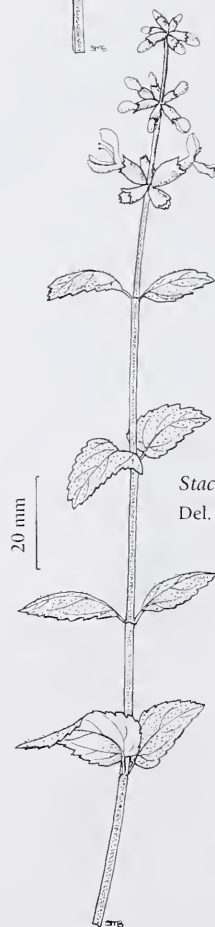
Salvia nilotica
Del. Sandie Burrows



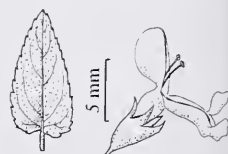
Satureja masukuensis
Del. Sandie Burrows



Scutellaria schweinfurthii
subsp. *pauciflora*
Del. Sandie Burrows



Stachys aculeolata var. *inermis*
Del. Sandie Burrows



purple; in montane grassland; 2,100–2,480 m. Endemic to the Nyika Plateau; widespread and probably common in most of the Nyika grasslands; flowering November to May.

Source. Brummitt & Seyani (1987).

Malawi. Nyika Mountains, *Sanderson* 7 (BM).

Zambia. Nyika Plateau, without precise locality, 2,100 m, 1959, *Richards* 10419 (K); *Phillips* 148A (PRE, SRGH, MO); Chosi Hill, 2000, *Winter* 4000 (MAL, PRE).

***Pycnostachys dewildemaniana* Robyns & Lebrun**

Annual herb; leaves linear; in miombo woodland. Eastern Africa

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Pycnostachys ruandensis* DeWild. ❖**

Pycnostachys clinodon Mildbr.

Annual herb up to 1.2 m tall, but usually smaller; leaves obovate to rhombic, base attenuate, margin toothed in upper half; corolla light blue; often growing in thin soil overlying rock. Eastern Africa.

Source. Mill (1979).

Malawi. Nyika National Park, rock outcrop at Chelinda Bridge, 2000, *Winter* 4066 (MAL, PRE), 2000, *Mwanyambo* 533 (MAL); Dembo road, 2,300 m, 1975, *Pawek* 9299 (MO, PRE).

Zambia. Nyika Plateau, Chowo Rocks, 2,210 m, *Brummitt* 10865 (K, PRE).

***Pycnostachys schliebenii* Mildbr. ●**

Subshrub up to 2 m tall, smooth; spike up to 50 mm long, corolla blue; on forest margins. Known only from the Nyika Plateau and Tanzania.

Source. Brummitt (1973).

Malawi. Nyika National Park, forest 3 km E. of Nganda, 1972, *Brummitt* & *Synge* 93 (K, MAL, SRGH); 5 km N.E. of Nganda, 1972, *Synge* 286 (K).

Zambia. Nyika Plateau, Chowo Forest, 1,830 m, *Phillips* 3389 (PRE).

***Pycnostachys stuhlmannii* Gürke**

Erect, short-hairy annual or short-lived perennial herb; leaves sessile or subsessile, narrowly to very narrowly ovate-elliptic or linear, acuminate, base attenuate; spikes short, under 30 mm long in fruit, ovoid to globose, in panicles or corymbs, flowers to 12 mm long, light powder-blue to intense sky-blue, calyx hairy, teeth 3–4.5 mm long; wetlands and stream banks in grassland; 1,860–2,400 m. D.R.C. and Uganda to Zimbabwe.

Malawi. Nyika National Park, seepage around N. Rumphu Bridge, 2,140 m, 2000, *Willis* 169 (MAL, PRE).

***Pycnostachys urticifolia* Hook.**

Pycnostachys pubescens Gürke; ?*Pycnostachys oblongifolia* Baker [N.

Nyasa, Whyte]; ?*Pycnostachys leptophylla* Baker

Subshrub to ca 1.5 m, or a small tree up to 4–5 m high, stem woody, up to 100 mm diameter; leaves with a long petiole, ovate, densely hairy; flowers vivid blue; in scrub grassland, forest margins, and among rocks. Tanzania to South Africa.

Source. Mill (1979); PRE.

Malawi. Nyika National Park, 1946, *Brass* 17296 (PRE).

***Rotheca myricoides* (Hochst.) Steane & Mabberly**

Clerodendrum myricoides (Hochst.) Vatke

Chichewa: msuka-ana; *Yao:* chipaupa

Shrub or small tree with pale brown corky bark; leaves opposite or in whorls of 3 or 4, variously shaped, base tapering, apex acute to acuminate, margin entire to coarsely serrate, glabrous to velvety; flowers asymmetrical, greenish and blue to dark blue, stamens and style long, prominent, arched; fruit blackish, deeply 4-lobed, 5–10 mm diameter; in wooded grassland, woodland, scrub, and on rocky outcrops. South Africa to Ethiopia. A number of subspecies and varieties are sometimes recognized; it is uncertain to which the Nyika material belongs.

Source. F.T.E.A. Verbenaceae: 130 (1992).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Rotheca quadrangulata* (B.Thomas) R.Fern. ❖**

Clerodendrum quadrangulatum B.Thomas; *Clerodendrum sansibarense*,

pro parte, sensu Verdcourt (1992), non Gürke (1893)

Weak-stemmed, briefly-deciduous erect or scandent shrub to 4 m; leaves unpleasantly scented, opposite, ovate to elliptic, 40–220 × 20–100 mm, more or less hairless, margin entire to coarsely serrate-crenate, apex sharply acuminate, petiole 3–35 mm long; flowers asymmetric, 5-petalled, greenish white and blue-purple, stamens and style long, arching; fruit scarlet to blackish, 3- to 4-lobed, on a plate-like calyx; in or on edges of montane rainforest; 1,550–2,300 m. Malawi, Zambia, D.R.C., and Tanzania. Verdcourt in F.T.E.A. Verbenaceae (1992) treats *Clerodendrum quadrangulatum* as a synonym of *C. sansibarense* Gürke subsp. *sansibarense*. However, in a joint paper, Fernandes & Verdcourt (2000) list both *Rotheca* (*Clerodendrum*) *quadrangulata* and *R. sansibarense*, implying that at least Fernandes regards the two as separate and distinct species. Since she is preparing the *Rotheca/Clerodendrum* treatment for *Flora zambesiaca*, we follow her concept in this case.

Source. F.T.E.A. Verbenaceae: 126 (1992); Fernandes & Verdcourt (2000: 152).

Malawi. Nyika National Park, Jalawe Viewpoint, 2000, *Thera* 3082 (MAL); Juniper Forest, 2000, *Chikuni* 512 (MAL); Thazima Camp, 2000, *Chapama* 173 (MAL).

Zambia. Nyika Plateau, Chowo Forest, *White* 2566 (White et al. 2001: 585).

***Salvia nilotica* Juss. ex Jacq. ❖**

Salvia abyssinica Jacq., non L.f.; *Salvia parviflora* Salisb.; *Salvia hochstetteri* Baker

Scrambling hairy rhizomatous herb to 2 m; leaves aromatic, lower leaves pinnatifid, petiolate, up to 130 × 50 mm, cauline leaves ovate, clasping at the base; flowers in open branched terminal racemes, calyx tube funnel-shaped, 10-veined, 5-toothed, upper teeth usually over 5 mm long, corolla 10 mm long, less than twice calyx length, white, pink or purplish blue; common in grassland and forest margins; 1,800–3,700 m. Ethiopia, E. Africa, Malawi (Nyika Plateau) and E. Zimbabwe. Specimens have in the past been mistakenly identified as *S. runcinata* L.f.

Source. Brummitt (1973).

Malawi. Nyika National Park, N.W. side of Nganda, 1972, *Brummitt* & *Synge* 59 (K, MAL); Chelinda Bridge, 1977, *Pawek* 13189 (MO, UC, K, SRGH, MAL, PRE).

***Satureja biflora* Briq.**

Micromeria quartini A.Rich.; *Satureja punctata* (Benth.) Briq.;

Micromeria schimper Vatke

Erect woody herb, with 1-several erect stems from a thick stock, to 0.5(0.8) m tall, hairless to long-haired; leaves aromatic, elliptic to circular entire 12(20) × 8 mm; inflorescence bracts leaf-like, flowers 2–20 in usually dense axillary clusters, 8 mm long, corolla lilac to white, calyx teeth equal in lowland forms, but lower teeth up to twice as long as upper in high altitude grassland forms; common on grassy edges of forests. Widespread in Africa.

Source. Brummitt (1973).

Malawi. Nyika National Park, N.W. foot of Nganda, 1972, *Brummitt* & *Synge* 21 (K, MAL, SRGH, LISC, BR); head of Mondwe Valley, 1972, *Brummitt* & *Synge* 236 (K, MAL).

***Satureja masukuensis* (Baker) Eyles ❖**

Calamintha masukuensis (Baker) S.Moore; *Leucas masukuensis* Baker

Shrub up to 1(1.5) m tall, sparsely branched; flowers white, calyx up to 5 mm long; in tall grassland or forest margins. Distribution outside Malawi not established; type collection from Misuku Hills.

Source. Mill (1979).

Malawi. Nyika National Park, N.E. of Mwanda Ridge, 2000, *Winter* 4155 (MAL, UZL).

***Satureja myriantha* (Baker) Brenan**

Leucas myriantha Baker

Shrub up to 1(1.5) m tall, sparsely branched; flowers white, calyx up to 9 mm long; in tall grassland or forest margins. Distribution outside Malawi not established.

Source. Dowsett-Lemaire (1985).

No country given. Nyika Plateau, without locality, Dowsett-Lemaire 113 (K?).

Scutellaria schweinfurthii Briq. subsp. **pauciflora** (Baker) Paton ♦◆

Scutellaria pauciflora Baker; *Scutellaria livingstonei* Baker; *Scutellaria debeerstii* Briq.

Perennial suffrutescent (pyrophyte) with woody rootstock; leaves toothed, ovate, ca 27 × 10 mm on non-flowering shoots; inflorescence up to 300 mm from rootstock, leaves absent or virtually so at flowering, corolla 18 mm long, purple; locally common in short grassland; 1,400–1,950 m. Widespread in tropical Africa.

Source. Brummitt (1973).

Malawi. Nyika National Park, Nganda, 1972, *Synge* 466 (K, MAL, SRGH).

Stachys aculeolata Hook.f. var. **inermis** Y.B. Harv. ♦

Perennial suffrutescent with creeping rhizomes; leaves ovate, 38–55 × 10–32(48) mm, apex acute to obtuse, base cordate, petioles without glands; inflorescence elongate, unbranched, verticils (4)6-flowered, 2–90 mm apart; corolla 5–28 mm long, white, pink or purple, with purple or pink flecks on lower lip, upper lip 5–7 mm long, lower lip more or less twice as long as upper lip; in woodland and moderately shady places, or among rocks; 1,800–3,000 m. Burundi, Uganda, E. D.R.C., W. Tanzania, and N. Malawi (Nyika National Park). The Malawian specimens occur at the lower extreme of the altitudinal range.

Source. Harvey (1996).

Malawi. Nyika National Park, Mpopoti Peak, 2000, *Willis & Luhanga* 62 (MAL); Nyika Plateau, 1903, *Henderson* s.n. (BM).

Tetradenia riparia (Hochst.) Codd ♦◆

Iboza riparia (Hochst.) N.E.Br.; *Basilicum riparium* (Hochst.) Kuntze; *Moschosma multiflorum* Benth.

Branched soft-wooded dioecious shrub to 3 m tall, stems knobbly with leaf scars; leaves strongly aromatic, thick and leathery; inflorescence paniculate, often diffusely branched, ultimate branchlets spike-like, often appearing

after the leaves are shed, female inflorescence often more compact, bracts overlapping in the bud stage, flowers white to mauve or lilac, many, minute; in bush land of drier and frost-free rocky slopes. Ethiopia to South Africa, Angola, and Namibia.

Source. Brummitt (1973).

Malawi. Nyika National Park, S. slopes of Kawozya, 1972, *Brummitt & Synge* 188 (K, MAL, SRGH); Fingira Rock, 2000, *Winter* 4210 (MAL, PRE).

Vitex doniana Sweet ♦

Chichewa: mpyumbyai, msimpsya; *Yao:* mpindimbi

Deciduous tree 5–15 m tall, with a rounded dark green crown, bark light brown, vertically fissured and stringy; leaves 5- to 7-foliate, leaflets obtriangular, obovate or elliptic, 40–250 mm long, hairless, more or less glaucous below, petiole 50–200 mm long; flowers white to pink, lower lip violet or purple; fruit oblong-ellipsoid, 18–30 mm long, black, glabrous, set on a shallow cup; along forest margins and in transitional or moist miombo woodland. Zimbabwe northwards throughout much of tropical Africa. Only in the foothills of the Nyika Plateau. The fruits are edible and tasty.

Source. F.T.E.A. Verbenaceae: 62 (1992); White *et al.* (2001): 588.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999); below Manchewe Falls (White *et al.* 2001).

Vitex madiensis Oliv. subsp. **milanjiensis** (Britten) F. White

Vitex milanjiensis Britten

Yao: chipindimbi, msecherakunyama

Tree or shrub to 8 m tall (var. *milanjiensis*) or pyrophytic suffrutescent (var. *epidictyodes*); leaves mostly 5-foliate, leaflets narrowly obovate, elliptic or oblanceolate, venation closely reticulate and raised on the upper surface, hairless and shiny above, hairy below, sometimes completely hairless, margin shallowly and coarsely crenate; flowers white/pink and blue; fruit shiny, white-spotted, 14–25 mm long, woody; in miombo and associated types of woodland. Malawi to Angola and Tanzania.

Source. Brummitt (1973); F.T.E.A. Verbenaceae: 61 (1992).

Malawi. Nyika National Park, Sawi Valley, 1972, *Synge* 416 (K, MAL, FHO).

Excluded species

Achyropermum aethiopicum Welw.

Reported by Chikuni (1999) from N. Tanzania, Zambia, and Angola, but not from Malawi. The true identity of these plants is probably *A. cryptanthum* Baker.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Aeollanthus myrianthus Baker

Aeollanthus medusa Baker; *Aeollanthus gamwelliae* G. Taylor;

Aeollanthus xerophytiens Lebrun ex Brooks *et al.*, nom. nudum

Known from Tanzania, but the presence of this species in Malawi could not be confirmed.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Aeollanthus serpiculoides Baker

Known from Tanzania, but the presence of this species in Malawi could not be confirmed.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Leonotis nepetifolia (L.) Aiton f.

Woody annual subshrub, unbranched at the base, to 3 m high; corolla orange or cream-coloured. This species is restricted to drier woodland habitats at lower altitudes, for example, Rumpho Gorge, 1,100 m, *Pawek* 4928.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Ocimum grandiflorum Lam.

Becium grandiflorum (Lam.) Pic.Serm.; *Becium bicolor* Lindley

Known only from N. Tanzania to Ethiopia; most likely to have been confused with *O. obovatum*.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Plectranthus kipandensis (without author citation)

This is presumably a determination listing error, likely to be *P. kapatensis*.

Malawi. Nyika National Park, Chisanga Falls, 2000, Mwanyambo 499 (MAL).

Plectranthus stenophyllus Baker

In light of several allies of *P. stenophyllus* later described from Nyika, this record is considered to represent one of those, probably *P. goetzii*.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Solenostemon schulziana Launert

This name could not be traced.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

LAURACEAE

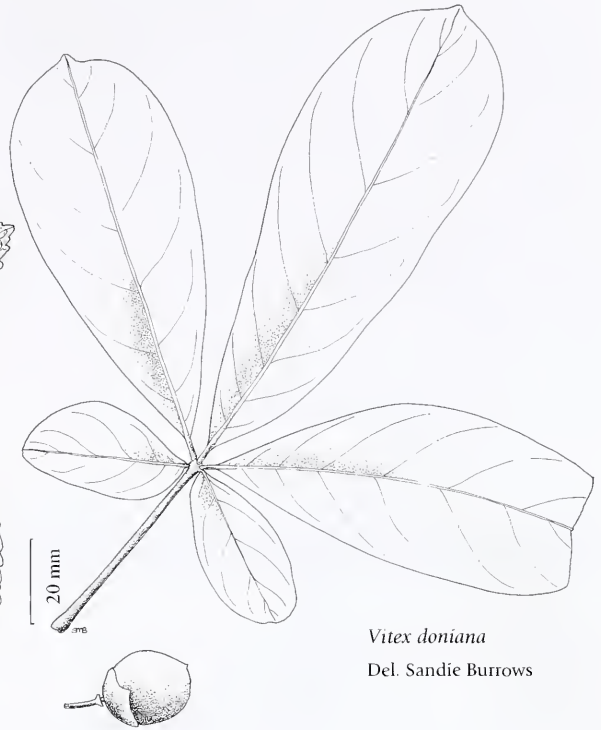
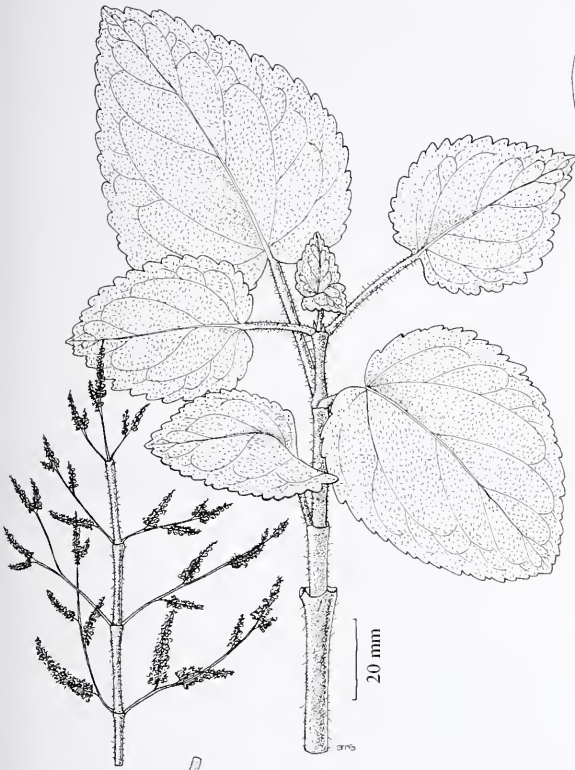
Cassytha filiformis L. ♦

Chichewa: sakasinji; *Tumbuka:* sangazingi; *Yao:* lwandao

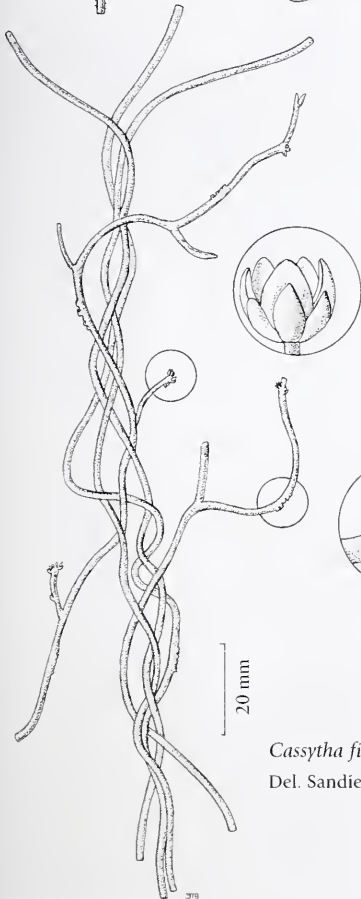
Parasitic herb forming masses of yellowish green twining threads (stems) in

and over low vegetation; leaves scale-like, 1.5–2 mm long; flowers 3–10 in an axillary spike; fruit a round drupe, 6 × 5 mm, crowned with a persistent perianth; in a wide variety of vegetation types, from sea-level to 1,400 m.

Tetradenia riparia
Del. Sandie Burrows



Vitex doniana
Del. Sandie Burrows



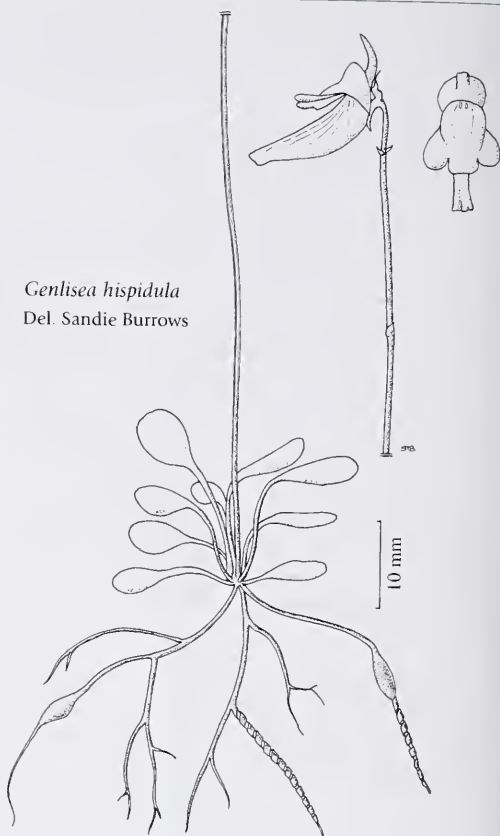
Cassytha filiformis
Del. Sandie Burrows



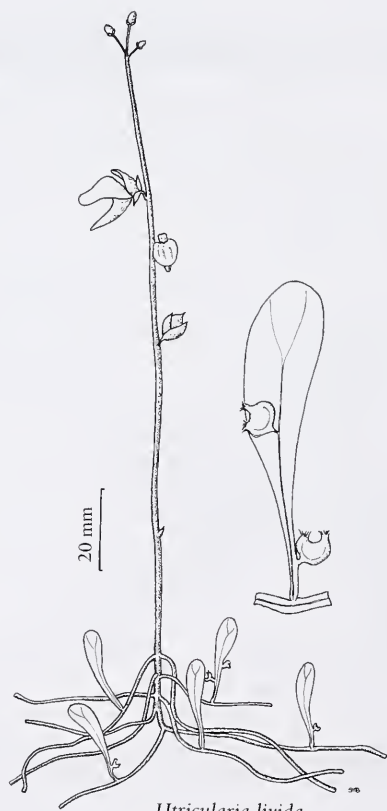
Cryptocarya liebertiana
Del. Pat Halliday



Ocotea usambarensis
Del. Pat Halliday



Genlisea hispidula
Del. Sandie Burrows



Utricularia livida
Del. Sandie Burrows



Linum volkensii
Del. Sandie Burrows

Occurring throughout the tropics.

Source. Brummitt (1973).

Malawi. Nyika National Park, Sawi Valley, 1972, *Synge 413* (K, MAL); Wovwe River Valley, 2000, *Burrows & Burrows 6908* (PRE).

***Cryptocarya liebertiana* Engl. ❖**

Medium to large evergreen tree, buttressed, bark smoothish; leaves alternate, broadly ovate to ovate-elliptic, leathery, hairless, more or less blue-green below, 3-veined from the base; flowers small, white; fruit fleshy, black, 13–18 mm diameter; in evergreen forest; 700–2,200 m. South Africa (KwaZulu-Natal) to Tanzania. This tree is restricted to a few forest patches in the southwestern quadrant of the plateau. The root is used as a purgative in Tanzania.

Malawi. Nyika Plateau, Kasyaula Forest (Dowsett-Lemaire 1985: 314).

Zambia. Nyika Plateau, Manyenjere and Kasoma Forests (Dowsett-Lemaire 1985: 314).

***Ocotea kenyensis* (Chiov.) Robyns & R.Wilczek**

brown stinkwood

Evergreen tree 6–20 m tall, bark smooth, brownish grey, under-bark bright orange; leaves aromatic, alternate, elliptic, 80–200 × 35–90 mm, deep glossy

green above, hairless; flowers small, cream, fragrant; fruit acorn-like; in evergreen forest; 1,100–2,600 m. South Africa to Ethiopia.

Source. *Flora zambesiaca* 9(2): 58 (1997).

Malawi. Nyika Plateau, Kasyaula Forest, *Dowsett-Lemaire 318* (White *et al.* 2001); Mwenembwe Rainforest, W. side of upper Henga Valley, 6,000', 1952, *Chapman 59* (FHO).

Zambia. Nyika Plateau, Kasoma Forest (Dowsett-Lemaire 1985: 315).

***Ocotea usambarensis* Engl. ❖**

East African camphorwood; *Tumbuka*: bokoto, mvivu

Medium to large evergreen tree 15–30 m tall, bark purplish grey, rough with age, with a camphor-like scent when cut, twigs densely hairy; leaves alternate, ovate to elliptic, dark green above, silvery white below, some hairs on both surfaces, camphor-scented when crushed; flowers small, yellowish; fruit like a small acorn; a canopy tree in evergreen forest; 1,750–2,350 m. Zambia, Malawi, D.R.C., Uganda, Kenya, and Tanzania. This species, like other species of *Ocotea* and *Cryptocarya*, characteristically produces long sucker shoots from the base of the tree. A tree much-prized in Malawi for the making of canoes, and now threatened as a result.

Source. *Flora zambesiaca* 9(2): 56 (1997); White *et al.* (2001: 302).

Malawi. Nyika Plateau, Zovochipolo Forest (Dowsett-Lemaire 1985: 315).

LENTIBULARIACEAE

The family Lentibulariaceae comprises plants which are insectivorous, trapping micro-organisms in tiny traps situated in or on their roots. They are almost all marsh plants, or aquatic.

***Genlisea hispidula* Stapf ❖**

Small terrestrial herb with tufted (rosulate) leaves; foliage leaves spatulate with a long petiole, trap leaves descending below ground, tubular, ending in 2 ribbon-like, helically twisted arms; flowering stalk 100–300 mm tall, branched or not, flowers pink, mauve or blue, upper corolla lip more or less round, ovary and capsule densely hairy; in seasonally or permanently wet grassland; 1,000–2,700 m. Widespread in tropical Africa from South Africa to Nigeria and Kenya.

Source. *Flora zambesiaca* 8(3): 40 (1988); Fischer *et al.* (2000).

Malawi. Nyika Plateau, 12.5 km from Chelinda Camp on road to Nganda, just after turn off to Rukuru Bridge, 1977, *Grosvenor & Renz 1134* (K, SRGH); Wovwe River, 2000, *Burrows & Burrows 6911* (PRE).

***Genlisea subglabra* Stapf**

Genlisea hispidula subsp. *subglabra* (Stapf) P.Taylor

As for *G. hispidula*, but with the upper lip of the corolla oblong-lanceolate, and the ovary and capsule more or less hairless; in swamps, on Nyika growing in association with *Lobelia mildbraedii*. D.R.C., Burundi, Malawi, Zambia, and Malawi.

Source. Fischer *et al.* (2000).

Malawi. Nyika National Park, Lake Kaulime, 1970, *Brummitt 10799* (K).

***Utricularia appendiculata* E.A.Bruce**

Terrestrial herb; leaves rosulate, flat on the ground, often dead at flowering, linear, to 30 mm long, 1.5–3 mm wide; flowering stalk twining, to 600 mm high, flowers white, cream or pale yellow, calyx lobes unequal; in bogs and marshes; 200–1,860 m. Zimbabwe to Cameroon and Uganda; also on Madagascar.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Utricularia livida* E.Mey. ❖**

Utricularia odontosperma Stapf

Terrestrial herb; leaves tufted, sometimes absent at flowering, linear to obovate, 10–70 × 1–6 mm; flowering stalk erect, simple, 20–800 mm long, flowers violet or white with a yellow spot on the lip, calyx lobes subequal; in wet boggy grassland and wet soils over rock; 0–2,600 m. Widespread in Africa; also in Madagascar and Mexico.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Utricularia odontosepala* Stapf**

Utricularia iwelwitschii Oliver var. *odontosepala* (Stapf) P.Taylor

Terrestrial herb; leaves scattered on the stolons, narrowly obovate-spathulate, 10–30 × ca 1 mm; flowering stalk slender, straight, 50–250 mm tall, flowers mauve or violet with a yellow blotch, calyx lobes subequal; in damp grassland and shallow wet soil over rocks; 1,300–2,200 m. N. Malawi, Zambia, and D.R.C. (Katanga).

Source. *Flora zambesiaca* 8(3): 17 (1988).

Malawi. Nyika National Park, Chowo Rock, 1973, *Pawek 6670* (CAH, K, MO, UC, UM).

***Utricularia pentadactyla* P.Taylor**

Terrestrial herb with 2–5 tufted leaves, often decayed at flowering; leaves oblanceolate-spathulate, to 6 × 1 mm; flowering stalks 20–300 mm tall, papillose basally, flowers mauve to white with a yellow spot on lower throat, calyx lobes unequal; in damp sandy or peaty grassland, also shallow wet soil over rocks; 1,500–2,100 m. Zimbabwe to Angola and Ethiopia.

Source. *Flora zambesiaca* 8(3): 16 (1988).

Malawi. Nyika Plateau, Chowo Rocks, 2,210 m, 1970, *Brummitt 10867* (K).

***Utricularia prehensilis* E.Mey.**

Terrestrial herb; leaves numerous on the stolons, usually decayed at flowering, linear to narrowly oblanceolate, to 100 × 3 mm; flowering stalk erect or twining, slender, 30–350 mm long, flowers yellow, calyx lobes more or less unequal; in bogs, marshes, and seasonally flooded ground by lakes and rivers; 0–2,100 m. Widespread in E. and southern Africa; also in Madagascar.

Source. *Flora zambesiaca* 8(3): 22 (1988).

Malawi. Nyika Plateau, Chelinda Bridge, 1967, *Richards 22659* (K).

***Utricularia pubescens* Sm.**

Terrestrial herb; leaves scattered on the stolons, usually present at flowering, circular, peltate, long-petiolate, mucilaginous, 1–5 mm diameter; flowering stalk erect, slender, 20–350 mm long, flowers white or pale lilac, calyx lobes subequal; in damp peaty soil in wet grassland and on wet rocks; sea level to 1,900 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 8(3): 19 (1988).

Malawi. Nyika Plateau, 12.8 km N. of M1, 1978, *Pawek 14074* (K, MAL, MO).

***Utricularia scandens* Benj.**

Utricularia gibbsiae Stapf.; *Utricularia schweinfurthii* Baker ex Stapf

Terrestrial herb; leaves few on the stolons, linear, to 10 × 1 mm; flowering stalk slender, erect or twining, 30–350 mm tall, flowers yellow, calyx lobes slightly unequal; in boggy grassland and among mosses on wet rocks; 1,000–2,250 m. Botswana and Zimbabwe northwards throughout tropical Af-

rica and the Old World tropics.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Utricularia subulata* L.**

Terrestrial herb; leaves few from the base of the flowering stalk, linear, 10–20 × ca 1 mm; flowering stalk erect, very slender, to 250 mm long, flowers yellow, calyx lobes subequal; in wet peaty or sandy soil in grassland; 0–1,800 m. Widespread throughout the tropics.

Source. *Flora zambesiaca* 8(3): 27 (1988).

Malawi. Nyika Plateau, 12.8 km N. of M1, 1978, Pawek 14073 (K, MO).

***Utricularia welwitschii* Oliver**

Terrestrial herb; leaves scattered on the stolons, often decayed at flowering, obovate-spathulate to linear-oblongate, to 30 × 0.5–2 mm; flowering stalk robust, erect or twining, 40–500 mm tall, flowers mostly violet with a yellow blotch, calyx lobes subequal; in damp sandy or peaty grassland; 900–2,000 m. South Africa to Angola, C.A.R. and Tanzania; also in Madagascar.

Source. *Flora zambesiaca* 8(3): 17 (1988).

Malawi. Nyika Plateau, Lake Kaulime, 2,200 m, 1958, Robson 285 (K, LISC, SRGH).

Excluded species

***Genlisea africana* Oliv.**

This species is not recorded from Malawi in the comprehensive revision of the African *Genlisea* (Fischer *et al.* 2000). This collection probably belongs

to one of the above species of *Genlisea*.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

LINACEAE

***Linum thunbergii* Eckl. & Zeyh.**

Perennial (or annual?) herb 150–600 mm tall, stems erect, single or in groups, mostly unbranched; leaves opposite basally, alternate higher up, oblong-lanceolate to linear, 9–20 × 2–5 mm, broader towards the base of the stem; flowers terminal with 5 chrome-yellow petals; in grasslands and marshes; 1,500–2,150 m. South Africa, Zimbabwe, Angola, Malawi, and Tanzania.

Source. *Flora zambesiaca* 2(1): 97 (1963).

Malawi. Nyika Plateau, 1961, Robinson 4506 (K); Mpopoti, 2000, Thera 3061 (MAL); Sangule Peak, 2000, Izidine 85 (LMA).

***Linum volkensii* Engl. ✧**

Linum bolstii Engl. ex R. Wilczek

Perennial or annual herb 200–750 mm tall, stems erect, single or in groups, unbranched; leaves alternate throughout, linear-lanceolate, 10–25 × 1–3 mm; flowers terminal, with 5 dull yellow petals, sometimes with reddish

veins; in grassland and stony areas, sometimes by streams; 1,800–2,100 m. Malawi and Mozambique to Ethiopia.

Source. Brummitt (1973).

Malawi. Nyika National Park, 8 km E. of Nganda, 1972, Brummitt, Munthali & Synge 144 (K, MAL); Juniper Forest Reserve, 2000, Burrows & Burrows 6946 (PRE).

***Radiola linoides* Roth ✧**

Annual herb 10–70 mm tall, branching repeatedly and equally in the upper half; leaves opposite, elliptic to rounded, 1–3 mm long, 1-nerved, hairless; flowers with 4 white petals in clusters at the branch tips; in tussocky grassland; 1,800–2,300 m. Known only from the Nyika Plateau in the *Flora zambesiaca* area; also in Tanzania, Ethiopia, Cameroon, Europe, and Russia.

Malawi. Nyika Plateau, without precise locality, 1946, Brass 17292 (K).

LOBELIACEAE

***Cyphia brachyandra* Thulin**

Twining slender herb to 2 m long, from a root tuber to 30 mm diameter, stem more or less unbranched, ribbed, leaves 35–85 × 2–30 mm, linear to ovate, base tapering, margins finely toothed, hairless; flowers 20–30 in a lax raceme, pink to mauve; on forest margins, in scrub or rocky places. N. Malawi and S. Tanzania.

Source. *Flora zambesiaca* 7(1): 154 (1983).

Malawi. Nyika Plateau, Chelinda Bridge, 1970, Pawek 3423 (K).

***Cyphia erecta* De Wild. ✧**

Slender twining herb to 0.8 m tall, from a round tuber, stem more or less unbranched, leaves subsessile, 30–110 × 3–2.5 mm, linear to broadly elliptic, base tapering, margin finely toothed, glabrous or not; in grassland, woodland, and thickets. Malawi, Zambia, D.R.C. (Shaba), and Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Cyphia lasiandra* Diels**

Cyphia nyasica Baker; *Cyphia exelliana* Wimm.

Twining or climbing herb from a round tuber, often forming tangled masses; leaves petiolate, 30–100 × 6–40 mm, linear to ovate, base tapering to cordate, margins serrate, hairy or not; flowers in a lax raceme to 500 mm long, pink, purple or white, swollen at the base; in grassland, woodland, and thickets. Mozambique, Malawi, Zambia, Angola, D.R.C., and Tanzania. The Nyika material may all belong to *C. brachyandra*; it is unlikely that two twining species of *Cyphia* occur at Chelinda Bridge.

Source. Mill (1979).

Malawi. Nyika National Park, Chelinda Bridge, 2000, Thera 3037 (MAL); Juniper Forest, 2000, Chapama 212 (MAL).

***Cyphia nyikensis* Thulin**

Erect herb 150–230 mm tall, stem unbranched, ribbed, leaves subsessile,

crowded at the base of the stem, 20–45 × 7–18 mm, lanceolate to elliptic, base tapering, margin serrate, hairless; flowers pink, in a dense terminal raceme to 30 mm long; in shallow soil over rock. Endemic to the Nyika Plateau.

Source. *Flora zambesiaca* 7(1): 149 (1983).

Malawi. Nyika Plateau, without precise locality, 2,400 m, 1961, Robinson 4515 (SRGH, *holo.*).

***Cyphia richardsiae* Wimm.**

Erect herb, unbranched, ribbed, 200–500 mm tall, leaves sessile, 20–75 × 2–8 mm, linear to linear-lanceolate, margin revolute, thickened and finely toothed, hairless; flowers 10–30 in a dense raceme 40–160 mm long, pink, mauve or white; in upland grassland. N. Malawi, D.R.C. (Shaba), and Tanzania.

Source. *Flora zambesiaca* 7(1): 153 (1983); Patel (1997).

Malawi. Nyika National Park, Nganda Peak, 2,600 m, 1975, Pawek 9282 (SRGH).

***Lobelia giberroa* Hemsl. ✧ ●**

Lobelia squarrosa Baker

Perennial plant 2–9 m tall in flower; leaves narrowly oblanceolate to oblong-ovate, 250–900 × 40–150 mm, hairy below, hairy or not above, margins serrate to dentate; inflorescence 1–3 m long, flowers greenish white tinged with blue; on forest margins and in forest clearings, often in secondary forest. N. Malawi to Ethiopia. The most widespread of the 'Giant Lobelias'.

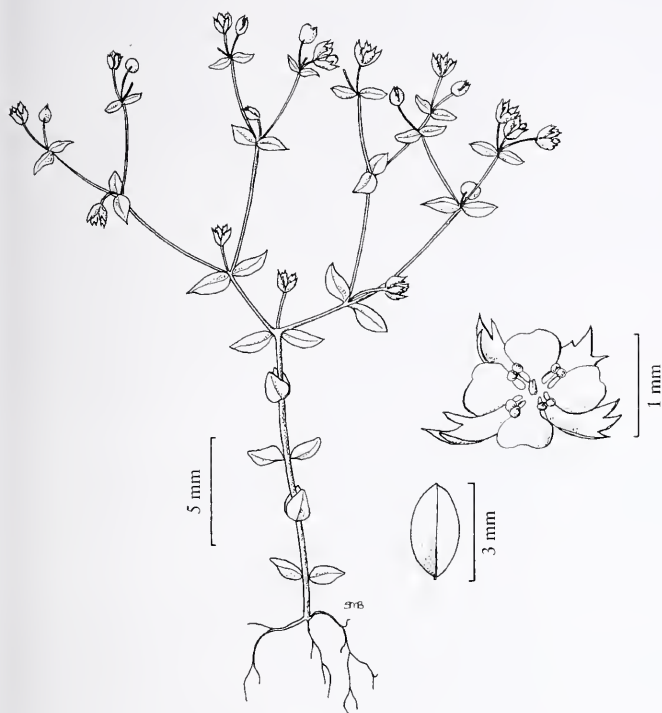
Source. Brummitt (1972).

Malawi. Nyika National Park, Kawozya, margin of forest E. of summit, 1972, Brummitt & Synge 217 (K, MAL, SRGH).

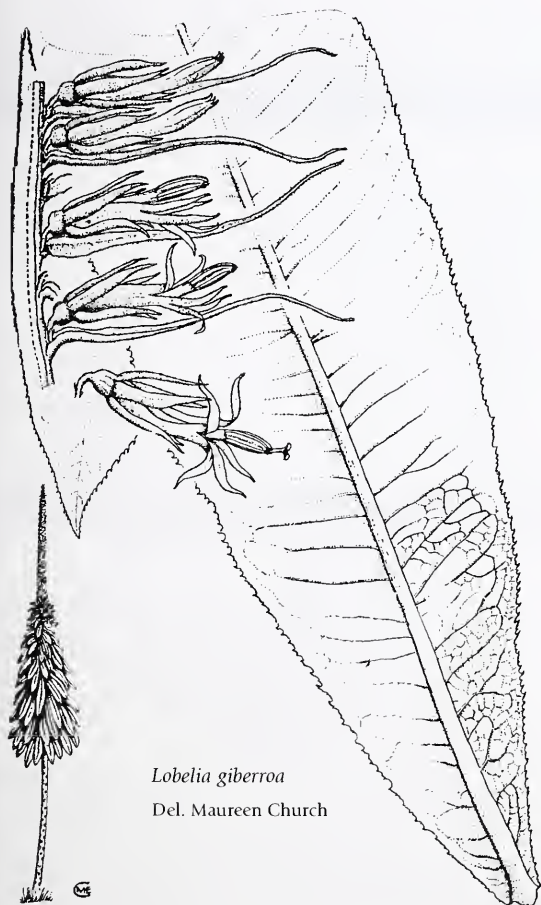
***Lobelia goetzei* Diels**

Lobelia bolstii sensu E. Wimm.

Radiola linoides
Del. Sandie Burrows



Cyphia erecta
Del. Maureen Church



Lobelia giberroa
Del. Maureen Church



Lobelia welwitschii
Del. Maureen Church

Annual or perennial more or less erect herb, stems few to many, 150–700 mm, ribbed, hairy, leaves oblanceolate to obovate or elliptic, 15–55 × 7–22 mm, base tapering, margins finely toothed, hairy on both sides; flowers blue, pink or white; in upland grassland, forest margins, often on disturbed ground. South Africa to Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979, as *L. holstii*).

Lobelia mildbraedii Engl. ●

Plant 1–3.5 m tall when in flower, suckering from the base, stem erect, thick, hollow, leaves sessile, linear to narrowly lanceolate, 150–400 × 20–40 mm, base rounded, tip tapering, margins more or less entire, glossy above, finely hairy below; inflorescence ca 1.5 m long, flowers pale blue to greenish; in upland bogs (dambos). N. Malawi to Uganda. This large plant with its candle-like spikes of flowers is a characteristic sight of the Nyika dambos, particularly at Lake Kaulime.

Source. *Flora zambesiaca* 7(1): 122 (1983).

Malawi. Nyika National Park, 1.6 km N. of Rest House at Chelinda, 1962, *Tyrer 730* (BM, SRGH).

Lobelia ovina Wimm.

Perennial herb from a woody rootstock, stems few to several, erect, 150–800 m tall, hairy, leaves linear to ovate, 10–16 × 1.2–9 mm, base truncate, finely hairy on both sides, margins entire or finely toothed; flowers 16–23 mm long, blue or mauve, with two linear crests in the mouth; in upland grassland, often evident after burning. Confined to the Nyika Plateau and S. Tanzania.

Source. *Flora zambesiaca* 7(1): 139 (1983).

Malawi. Nyika National Park, near Chelinda Camp, 1958, *Robson 453* (K, LISC, SRGH); head of Mondwe Valley, 1972, *Brummitt & Synge 238* (K).

Zambia. Nyika, without locality, 1974, *Fanshawe 12173* (K).

Lobelia stricklandiae Gilliland ●

Perennial 2–6 m tall in flower, suckering from the base, leaves narrowly oblanceolate, to 500 × 100 mm, acuminate, margins serrate, few hairs on

both sides; inflorescence 3–4 m long, flowers mauve to pinkish purple; on forest margins and in forest glades, often on stream banks. South Africa (Soutpansberg) to Tanzania.

Malawi. Nyika National Park, stream below Juniper Forest Reserve, 2000, *Koekemoer 1917* (PRE); Thazima Gate, below staff quarters, 2000, *Burrows & Maroyi 6829* (Buffelskloof Herbarium).

Lobelia trullifolia Hemsl. subsp. **trullifolia** ●

Lobelia nyikensis Baker [Type: Nyika Plateau, Whyte s.n. (K, holo.; B);

Lobelia intertexta Baker [Type: Nyika Plateau, Whyte s.n. (K, holo.; B, E)]; *Lobelia usambarensis* var. *calantha* E.Wimm. [Type: Nyika Plateau, Jackson 871 (PRE, holo.)].

Annual or short-lived perennial, erect or straggly, much-branched herb 40–500 mm tall, leaves 5–40 × 4–30 mm, ovate to subreniform or elliptic, crenate to pinnatifid, hairy or not; flowers blue to pale pink, 7–16 mm long; in grassland, forest margins, roadsides, often on rocky or bare ground. Malawi and Zambia to Ethiopia. It is probable that subsp. *minor* Thulin (flowers 3–6.5 mm long) also occurs on Nyika. This is the common small lobelia of Nyika which adorns the roadsides and the airfield in autumn and early winter.

Source. *Flora zambesiaca* 7(1): 126 (1983).

Malawi. Nyika National Park, road E. of Kaulime, 1960, *Chapman 765* (BM, SRGH); south circular route, 2000, *Koekemoer 1843* (PRE).

Zambia. Nyika Plateau by Zambian Rest House, 1971, *Anton-Smith in GHS214848* (SRGH).

Lobelia welwitschii Engl. & Diels ✧

Perennial, erect or ascending rhizomatous herb 100–500 mm tall, stems not or sparsely branched, leaves elliptic to narrowly lanceolate, to 12 × 1–6 mm, minutely toothed, hairless; flowers blue (rarely white) with 2 bumps at mouth of the tube; in bogs, swampy ground, lake edges, and stream banks. Zimbabwe to Cameroon and Ethiopia.

Source. *Flora zambesiaca* 7(1): 129 (1983).

Malawi. Nyika National Park, Lake Kaulime, 2,150 m, 1958, *Robson 631* (BM, LISC, SRGH); E. foot of Nganda, 1972, *Brummitt & Synge 96* (K, MAL, SRGH).

Excluded species

Cyphia brummittii Thulin

According to Thulin (*Flora zambesiaca* 7(1): 152 (1983)) this species is confined to Mt. Mulanje and is therefore excluded here.

Malawi. Nyika National Park, without locality or collecting details (Patel 1997).

Cyphia decora Thulin

This species is endemic to Mt. Mulanje and it is unlikely that this collection belongs to this taxon (R. Brummitt, M. Thulin, pers. comm.) and it is therefore excluded here until its identity is confirmed.

Malawi. Nyika National Park, Nganda, N. of summit, 2000, *Winter 4073* (MAL, PRE, UZL).

Cyphia mazoensis S.Moore

This species is not recorded from northern Malawi and Thulin would also have seen the specimen in his list for the compilation of *Flora zambesiaca* on which Mill based the inclusion of this species. Since he has not quoted this species from Malawi (N), we have excluded it here.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Lobelia heyneana Roem. & Schult.

This species is not listed for any country outside Zambia within the *Flora zambesiaca* area and, since we have no details of the collection, it is excluded until such time as the specimen is confirmed. It may well be a misidentification of the closely allied *L. inconspicua* A.Rich. (see *Flora zambesiaca* 7(1): 135 [1983]).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

LORANTHACEAE

Agelanthus bipartitus Balle ex Polhill & Wiens

Small epiphytic parasitic shrub to 1 m wide; leaves alternate, thin, elliptic to oblong-elliptic; flowers 2–4 in a sessile umbel, calyx circumscissile; corolla 32–42 mm long, red with yellow lobes with red tips; in montane forest, on various hosts, flowering January to August; 1,500–2,250 m. Confined to the Southern Highlands of Tanzania and the Nyika Plateau.

Source. Polhill & Wiens (1998: 165); Polhill (2001: 346).

Malawi. Nyika Plateau, Juniper Forest, 2,250 m, 1946, *Brass 17182* (BR, K, MO, US); Juniper Forest, 2,200 m, 1985, *Bampton 6* (K); below Sangule Kopje, 7 km S.W. of Chelinda Camp, 2,255 m, 1970, *Brummitt 10760* (K, MAL, SRGH); Zovochipolo, 2,100–2,200 m, 1981, *Dowsett-Lemaire 118* (K).

Agelanthus fuelebornii (Engl.) Polhill & Wiens ✧

Loranthus annulatus Engl. & K.Krause; *Tapinanthus fuelebornii* (Engl.)

Danser; *Loranthus eylesii* Sprague

Epiphytic parasitic shrub with densely lenticellate branches; leaves alternate, petiole 5–20 mm, lamina elliptic, leathery, glaucous; flowers 2–6 in a pedunculate umbel, calyx splitting lengthwise, corolla 35–50 mm long, red, with yellow over the vents, and red tips; berry red; in high-rainfall miombo woodland, commonly on *Protea*, *Dombeya*, *Cordia*, *Maytenus*, and *Brachystegia*; 1,150–1,950 m. Tanzania, N. Zambia, Malawi, and Zimbabwe.

Source. Mill (1979); Polhill & Wiens (1998: 167).

Malawi. Nyika Plateau, Chisanga Falls, 1,800 m, 1982, *Brummitt, Polhill & Banda 16192* (K).

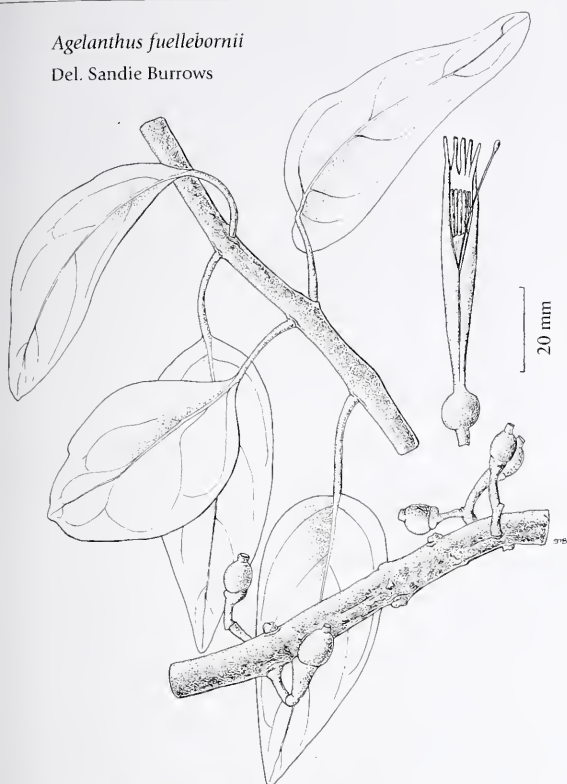
Agelanthus molleri (Engl.) Polhill & Wiens

Tapinanthus molleri (Engl.) Danser

Much-branched epiphytic parasitic shrub to 1 m, stems densely hairy; leaves

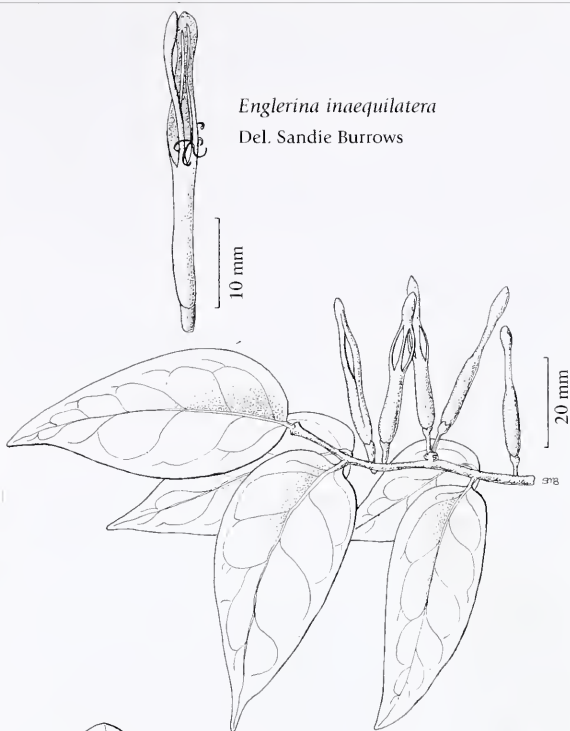
Agelanthus fuelebornii

Del. Sandie Burrows



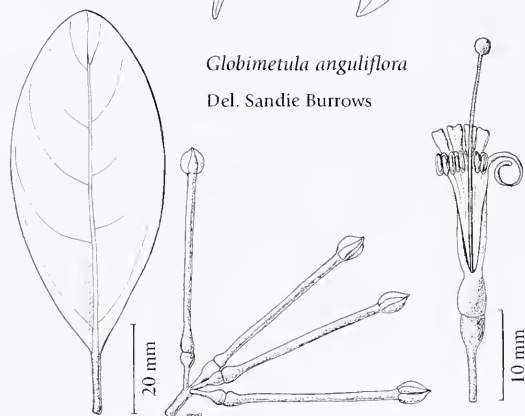
Englerina inaequilatera

Del. Sandie Burrows



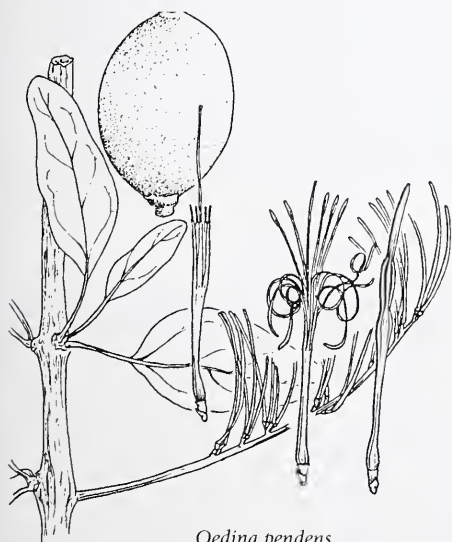
Erianthemum dregei

Del. Christine Grey-Wilson



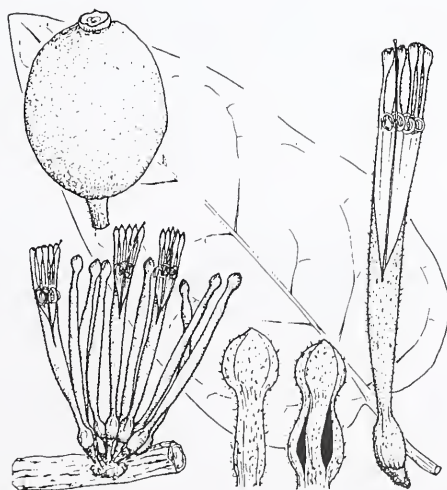
Globimetula anguliflora

Del. Sandie Burrows



Oedina pendens

Del. Christine Grey-Wilson



Phragmanthera usuiensis subsp. *sigensis*

Del. Christine Grey-Wilson

more or less opposite, petiole 5–15 mm long, lamina lanceolate to elliptic-lanceolate, dull green, slightly glaucous, hairy or not; flowers 2–8 in an umbel, corolla 38–42 mm long, greenish to pink, densely covered with branched hairs; a parasite of *Combretum*, *Ficus*, and legumes, flowering mainly from January to May. Zimbabwe to Angola, D.R.C., and Tanzania. **Source.** Patel (1997); Polhill & Wiens (1998: 173).

Malawi. Nyika Plateau, N.E. of Nganda, above Guwu Stream, 1,125 m, 1997, *Patel, Ludlow, Scott & Jarman 5090* (K, MAL); 2 km from Thazima Gate, 1985, *Bampton 14* (K); Nyika Plateau, Rumph-Chisenga Road, half a km S. of Nyika Road junction, 1,500 m, 1972, *Wiens 4606* (K, UT).

Agelanthus pilosus Polhill & Wiens

Large parasitic shrub to 2 m, stems densely covered in hairs; leaves subopposite, petiole 5–15 mm long, lamina thin, green to grey-green, ovate, acuminate, hairy or not; flowers 8–16 in an umbel, corolla 40–45 mm long, yellow or orange with red tips, finely hairy; a parasite commonly on *Bridelia* in montane and riverine forest and high-rainfall *Brachystegia* woodland, flowering mainly October–November. Known only from northern and central Malawi.

Source. Polhill & Wiens (1998: 181).

Malawi. Junction of road a few kilometres below Thazima, 1985, *Bampton 15* (K).

Agelanthus subulatus (Engl.) Polhill & Wiens

Tapinanthus subulatus (Engl.) Danser; *Tapinanthus chunguensis* (R.E.Fr.) Danser

Stems spreading, 1–2 m long, flattened, 4-angled or winged; leaves opposite to subopposite, thinly leathery, lanceolate to ovate-elliptic, dull to dark or blue-green; flowers in solitary axillary umbels of 8–16 flowers, bracts large, corolla 35–55 mm long, white to cream towards the base, orange to red at the tips; a parasite on legumes and *Combretum*, in woodland or forest, flowering throughout the rains. Somalia southwards to S. D.R.C., Zimbabwe, and Mozambique.

Source. Polhill & Wiens (1998: 150).

Malawi. Nyika National Park, Kasyau Forest (Dowsett-Lemaire 1985).

Zambia. Nyika National Park, Manyenjere, Kasoma and Chowo Forests (Dowsett-Lemaire 1985); Chowo Forest, 2,300 m, 1981, *van der Linden 177* (BR, K).

Agelanthus zizyphifolius (Engl.) Polhill & Wiens subsp. **vittatus** (Engl.) Polhill & Wiens

Tapinanthus vittatus (Engl.) Danser

Parasitic epiphytic shrub 0.4–1 m, branches glabrous; leaves alternate to subopposite, leathery, yellowish green, oblong-lanceolate to elliptic, glabrous; flowers axillary, corolla 30–45 mm long, base bulbous, pink with (upwards) yellow-green, white, and red bands; seeds pink; in montane forest. Tanzania, Malawi, Zimbabwe, Zambia, and D.R.C.

Source. Polhill & Wiens (1998: 155); Polhill (2001: 349).

Malawi. Nyika Plateau, by junction of Nthalire Road with the Chelinda–Rumphi Road, 2,200 m, 1982, *Brummitt, Polhill & Banda 16193* (BR, K, MAL, SRGH); Chisanga Falls, 1,800 m, 1982, *Brummitt, Polhill & Banda 16190* (BR, K, MAL, SRGH); road to Kasenga, Chipopoma Waterfall, 1,960 m, 1967, *Richards 22520* (BR, K, MAL).

Englerina cordata Polhill & Wiens

Small parasitic shrub with short rather spreading flowering branchlets; leaves glaucous, thin, sessile, lanceolate to ovate, base cordate; flowers 4–6 per umbel, reddish with a darker tip, 25–27 mm long; in montane or riverine forest, on *Garcinia* or *Rapanea*. Tanzania and northern Malawi. Similar to *E. inaequilatera*, but the leaves sessile and cordate.

Source. Polhill & Wiens (1998: 129); Polhill (2001: 349).

Malawi. Nyika National Park, Chisanga Falls, 1984, *Feehan F100* (K, holo., BR, DBN, LISC, MAL, MO, SRGH, iso.); Chisanga Falls, 1,800 m, 1986, *R.M. & D. Polhill 5253* (K, MAL, SRGH).

Englerina inaequilatera (Engl.) Gilli ✱

Loranthus inaequilaterus Engl.; *Loranthus tenuifolius* Engl.

Shrubby parasite to 1 m; leaves often flushed red, thin, petiolate, linear-lanceolate to ovate, glabrous; flowers 4–12 per umbel, 25–35 mm long,

yellow, orange to red, reddish at tips; on various hosts, mainly at edges of montane forests; 1,500–2,700 m. Tanzania, Malawi, E. Zambia, and Mozambique. Frequent on the Nyika.

Source. Mill (1979); Dowsett-Lemaire (1985); Polhill & Wiens (1998: 127); Polhill (2001: 349).

Malawi. More than 15 gatherings, e.g. N. end of Nyika Plateau, 2,260 m, 1972, *Syngé WC 287* (K, MAL, SRGH); by junction of Nthalire Road with Chelinda–Rumphi Road, 2,200 m, 1982, *Brummitt, Polhill & Banda 16195* (BR, K, MAL).

Zambia. More than 8 gatherings, for example, Nyika Plateau, S. of Zambian Rest House, 1989, *Goyder, Pope & Radcliffe-Smith 3268* (K); edge of Manyenjere Forest, 2,050 m, 1980, *Dowsett-Lemaire 119* (K); Chowo Forest, 1,930 m, 1967, *Richards 22698* (BR, K), *ibid.*, 1,800 m, 1978, *E. Phillips 3391* (K, MO, SRGH, WAG).

Englerina kapiensis (Balle) Polhill & Wiens

Loranthus sp. of Brummitt (1973)

Parasite with mostly pendulous 0.7 m stems; leaves petiolate, leathery, linear to linear-lanceolate, base decurrent, subglabrous, slightly glaucous; flowers 4–9 per umbel, 20–22 mm long, yellow with greenish tube, with spreading linear lobes; in *Brachystegia* woodland, sometimes on *Morella* (*Myrica*). D.R.C., N. Zambia, and Malawi.

Source. Brummitt (1973); Polhill & Wiens (1998: 130).

Malawi. Nyika National Park, 8 km E. of Nganda, by tributary of Wovwe River, 1,980 m, 1972, *Brummitt, Munthali & Syngé WC127* (K).

Erianthemum dregei (Eckl. & Zeyh.) Tieghem ✱

Loranthus dregei Eckl. & Zeyh. var. *nyasicus* Sprague

Stems with white or tawny hairs, more or less hairless with age; leaves opposite or alternate, petiole 3–15 mm long, lamina elliptic-oblong to ovate, densely hairy, at least below, base cordate; flowers 1 to several in leaf axils or old nodes lower down, corolla 30–50 mm long, yellowish green, densely hairy, berry orange; parasitic on a wide variety of host trees. Ethiopia to South Africa. Although this record is unconfirmed, this species may well occur, but the species in the forest canopy is likely to be *E. schelei*, and that in miombo *E. taborense*.

Source. Polhill & Wiens (1998: 237).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Erianthemum nyikense (Sprague) Danser

Loranthus nyikense Sprague; *Loranthus subsericeus* Weim.

Stems with tawny hairs, becoming hairless; leaves more or less opposite, mainly clustered on short shoots, petiole 0–9 mm, lamina elliptic to ovate, densely hairy; flowers mostly terminal on side shoots, or axillary, in clusters of 2–4, with leafy bracts, corolla 35–50 mm long, greenish, flushed with yellow or orange, densely hairy, berry pink-red, hairy; parasite in forest margins and riverine forest, flowering October to February. D.R.C., Tanzania, Zambia, Malawi, and Mozambique.

Source. Polhill & Wiens (1998: 242); Polhill (2001: 350).

Malawi. Nyika Plateau, without locality, 1903, *McClouine 111* (K, holo., B, iso.); Chisenga–Nthalire Road, 1984, *Feehan F96* (BR, EA, LISC, MAL, MO).

Erianthemum schelei (Engl.) Tieghem

Stems with stellate and branched hairs; leaves opposite, petiole 5–15 mm long, lamina broadly oblong-elliptic to ovate or round, base cordate, hairless above, densely hairy below; flowers 2–4 in clusters at old node points or in axils, corolla 40–50 mm long, basal swelling green, remainder orange, lobes green with red markings, berry orange; a parasite in montane and riverine forest, on a wide variety of hosts, flowering during the rains. Confined to Tanzania, Malawi, and adjacent parts of Zambia.

Source. Polhill & Wiens (1998: 236); Polhill (2001: 351).

Zambia. Nyika Plateau, Chowo Forest, 1985, *Bampton 58* (K).

Erianthemum taborense (Engl.) Tieghem

Similar to *Erianthemum dregei*, but more robust in all its parts and flowering later in *Brachystegia* woodland. Also in Burundi, D.R.C., Zambia, and Tanzania.

Source. Polhill & Wiens (1998: 238).

Malawi. Nyika National Park, S. end of Mbuzinandi Road, 1,900 m, 1987, I.F. & E.A.S. *la Croix 4595* (K); Nyika entrance road, just inside park boundary, 1,560 m, 1977, *Pawek 12965* (K, MAL, MO); Nthalire Road, down from Nyika, 1,500 m, 1975, *Pawek 9339* (EA, K, MAL, MO, PRE, SRGH, WAG).

Globimetula anguliflora (Engl.) Danser ✧

Parasitic shrub to 1 m, bark smooth, becoming powdery; leaves slightly fleshy, often tinged red when young; flowers 3–15 per umbel, 30–40 mm long, red with apical angled swelling turning from green to black in bud, lobes revolute, stigma peltate; berry ripening yellow, obovate-truncate; in high-rainfall woodland, particularly on *Uapaca*, but also on *Brachystegia* and other leguminous trees. Angola, Zambia, Tanzania, Malawi, and D.R.C.

Source. Polhill & Wiens 213 (1998).

Malawi. Nyika National Park, Sawi Valley, 1,700 m, 1972, *Synge WC432* (K, MAL); Chisanga Falls, 1984, *Feehan F101* (K, MAL); *ibid.*, 1985, *Bampton 11* (K).

Globimetula rubripes (Engl. & K.Krause) Danser

Parasitic shrub to 1.5 m, bark not becoming powdery; leaves slightly fleshy, glaucous; flowers 3–10(18) per umbel, red or pink at base, white or grey above, with obovoid apical swelling in bud turning darker, deeply divided with revolute lobes, stigma peltate, berries glaucous turning purple, obovoid-globose, 10–12 mm long; high-rainfall woodland, particularly on *Brachystegia*, but also on *Acacia* and *Pterocarpus*. Angola, Zambia, Tanzania, Malawi, and D.R.C.

Source. Polhill & Wiens (1998: 215).

Malawi. Nyika, waterfall on N. Rukuru River, 6.5 km [4 miles] N. of Rest House, 1,600 m, 1958, *Robson & Angus 461* (K, SRGH).

Oedina pendens (Engl. & K.Krause) Polhill & Wiens ✧

Dendrophthoe pendens (Engl. & K.Krause) Danser

Robust parasitic shrub, stems hairless at maturity; leaves opposite or subopposite, petiole 10–30 mm, lamina thin, lanceolate to oblong-elliptic, hairless, apex rounded; flowers in racemes in axils or old leaf nodes, corolla 55–65 mm long, orange below, bright red above, more or less minutely hairy, berry blue-green; parasitic on many different hosts, at forest margins, flowering in wet season. Tanzania to N.E. Zambia and Nyika.

Source. Polhill & Wiens (1998: 227); Polhill (2001: 351, fig. 123N–U).

Malawi. Nyika National Park, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985); Nyika Plateau, by junction of Nthalire Road with Chelinda–Rumphi Road, 2,200 m, 1982, *Brummitt, Polhill & Banda 16194* (K, MAL).

Zambia. Nyika National Park, Manyenjere, Kasoma and Chowo Forests (Dowsett-Lemaire 1985); Chowo Forest, 1985, *Bampton 57* (K); *ibid.*, 2,250 m, 1967, *Richards 22483* (BR, K, P).

Phragmanthera cornetii (Dewèvre) Polhill & Wiens

Tapinanthus cornetii (Dewèvre) Danser; *Loranthus rubiginosus* De Wild.; *Tapinanthus rubiginosus* (De Wild.) Danser

Parasitic shrub, branchlets set with red-brown dendritic hairs, becoming hairless, petiole 5–20 mm long, lamina finely hairy when young, hairless with age; flowers 2–4 in stalkless umbels, corolla yellow, the bulbous base and tips red, the lobes erect, berry reddish, hairy; in miombo woodland, particularly on *Uapaca*, flowering from May to September; from 900–1,700 m. Angola, D.R.C., Tanzania, Zambia, and Malawi.

Source. Patel (1999); Polhill & Wiens (1998: 260).

Malawi. Nyika, Thazima, 1985, *Bampton 60* (K); c. 1 mile N. of Thazima, 1986, *la Croix 846* (K, MAL, MO); Nyika Plateau, 13 km [8 miles] N. of M1, 1977, *Pawek 12911a* (K, MAL, MO); N. of Thazima Entrance, 1984, *Feehan F103* (BR, K, MAL, MO).

Phragmanthera eminii (Engl.) Polhill & Wiens

Tapinanthus eminii (Engl.) Danser

Much-branched parasitic shrub, branchlets with buff dendritic hairs, hairless with age, petiole 5–10 mm long, lamina hairy throughout when young, upper surface becoming hairless with age; flowers axillary, 2–3 in an umbel, corolla 40–50 mm long, pale green, densely hairy, lobes reflexed; berry blue-green, hairy; parasitic on a wide variety of hosts in miombo woodland and riverine vegetation, flowering mainly December to March; 900–1,800 m. Tanzania, D.R.C., Zambia, Malawi, Mozambique, and Zimbabwe.

Source. Patel (1999); Polhill & Wiens (1998: 271).

Malawi. Nyika Plateau, N.E. of Nganda, Guwu stream, 1,125 m, 1997, *Patel, Ludlow, Scott & Jarman 5082* (K, MAL).

Phragmanthera proteicola (Engl.) Polhill & Wiens

Similar to *P. eminii*, but flowers almost sessile, bracts larger, spatulate to leafy, and branchlets with longer hairs (1–4 mm rather than 0.5–1 mm); scarp and hills in high-rainfall miombo woodland (generally at higher altitudes than *P. eminii*), commonly on *Faurea* and *Protea*. Tanzania, Malawi, and Zambia.

Source. Polhill & Wiens (1998: 272).

Malawi. Nyika Plateau, Chisanga Falls, 1,800 m, 1982, *Brummitt, Polhill & Banda 16191* (K, MAL, SRGH); 7 km N. of Rumphi–Chisenga Road on road to Nyika Plateau, 1972, *Wiens 4609* (K, UT); Mbuzinandi Olera Road, 2,030 m, 1977, *Pawek 12941* (K, MAL, MO).

Phragmanthera usuiensis (Oliv.) M.G. Gilbert subsp. **sigensis** (Engl.) Polhill & Wiens ✧

Loranthus rufescens sensu Mill (1979), non DC (1830).

Spreading to pendent parasite, branchlets with stellate or dendritic hairs at first, hairless with age, petiole 10–30 mm long, lamina oblong-lanceolate to elliptic or ovate, leathery, dark green above, paler below, more or less hairless; flowers 2–6 in an umbel, corolla 30–50 mm long, yellow to orange, set with brownish hairs, berries blue-green; in forests of various types and adjacent woodland, up to 2,650 m. Widespread, from Zambia and Mozambique northwards to C.A.R. and Ethiopia; this subspecies from E. Tanzania to N. Mozambique, Malawi, and Zambia.

Source. Polhill & Wiens (1998: 260); Polhill (2001: 352, fig. 1123F–M).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Zovochipolo, 1985, *Bampton 59* (K); Juniper Forest, 2,200 m, 1985, *Bampton 8* (K).

Zambia. Nyika, Chowo Forest, 1985, *Bampton 56* (K).

Tapinanthus erianthus (Sprague) Danser ✧

Parasitic shrub, stems to 1 m, velvety pubescent; leaves grey-green to glaucous, ovate, cordate at base; flowers red, hairy, with head of bud turning darker, lobes short, reflexed, berries red, ellipsoid, 8 mm long, pubescent; in upland and riverine forest, sometimes in adjacent miombo woodlands; flowering March to November; 1,000–2,200 m. Angola, D.R.C., Tanzania, Malawi, Zambia, and Zimbabwe.

Source. Polhill & Wiens (1998: 196); Polhill (2001: 353).

Malawi. Nyika Plateau, Juniper Forest, 2,200 m, 1985, *Bampton 9* (K).

Excluded species

Agelanthus sansibarensis (Engl.) Polhill & Wiens

Tapinanthus sansibarensis (Engl.) Danser

Listed by Dowsett-Lemaire (1985), but not recorded for Malawi by Polhill & Wiens (1998). Both *A. bipartitus* and *A. fuelebornii* were misidentified as this species in the 1980s.

Malawi. Nyika National Park, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 322).

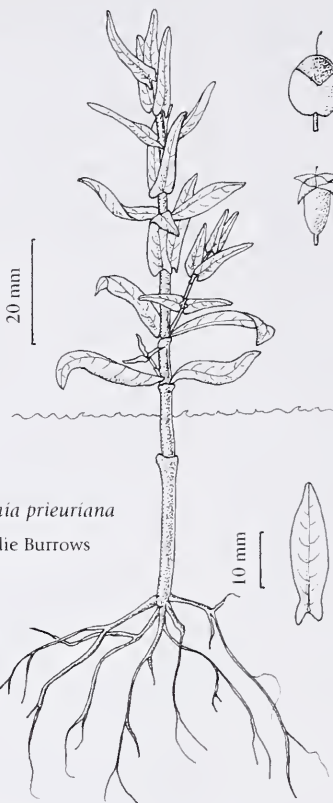
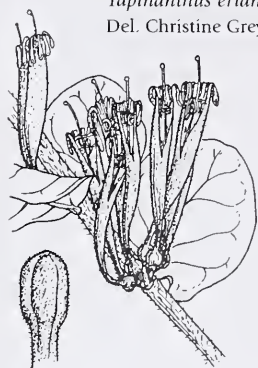
Zambia. Nyika National Park, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 322).

Tapinanthus dependens (Engl.) Danser

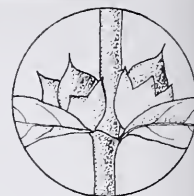
Parasitic shrub, stems spreading, then pendent, 1–3 m long, glabrous; leaves dull green, linear-lanceolate to elliptic-lanceolate; flowers 2–4 per umbel, pinkish red, often speckled white, with head of bud turning dark, with short reflexed lobes; berries oblong-ellipsoid, 10–12 mm long; in miombo woodland, almost always on *Brachystegia* or *Julbernardia*; flowering mainly March to October. Zimbabwe to Angola, D.R.C., and Tanzania. Not yet recorded on Nyika, but exists nearby and likely to occur: 8 km from Chisenga on Chisenga–Rumphi Road, 1,500 m, 1960, *Richards 13306* (BR, K, SRGH).

Source. Polhill & Wiens (1998: 192).

Tapinanthus erianthus
Del. Christine Grey-Wilson



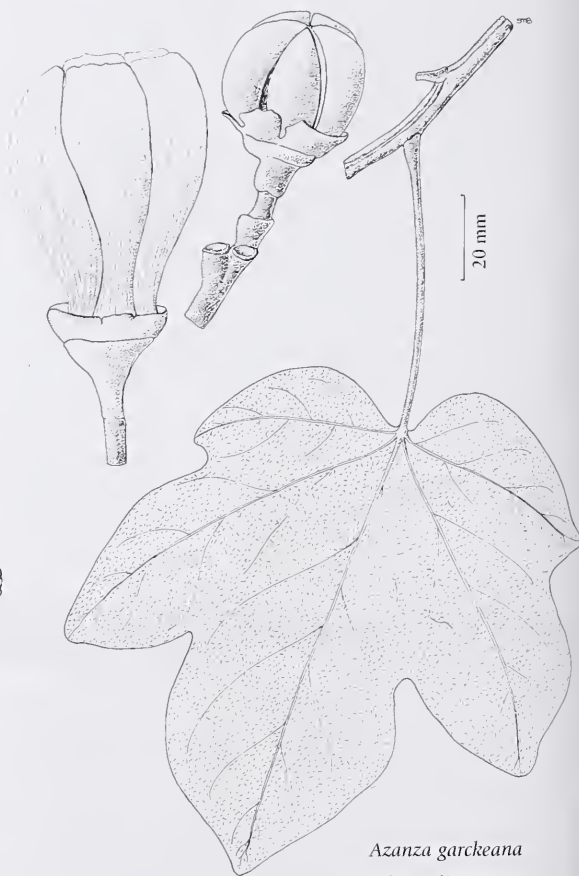
Ammannia prieuriana
Del. Sandie Burrows



Rotala cf. wildii
Del. Sandie Burrows



Abutilon longicuspe
Del. Sandie Burrows



Azanza garckeana
Del. Sandie Burrows

Ammannia prieuriana Guill. & Perr. ✧

Erect annual herb 100–400 mm tall, usually branched, stems reddish, 4-angled to winged; leaves opposite, decussate, linear to oblong, base almost hastate-cordate, clasping the stem; flowers in axillary clusters; on sandbanks, marshes, edges of swamps, or shallow water over sheetrock in miombo woodland. Widespread in tropical Africa.

Malawi. Nyika National Park, Thazima Gate, 2000, *Burrows & Maroyi 6813* (LMA, MAL, PRE, SRGH, UZL).

Rotala capensis (Harv.) R.Fern.

Rotala filiformis (Bell.) Hiern

Annual tufted herb with unbranched stems to 50 mm tall; leaves decussate, linear-lanceolate to oblong, 5–15 mm long; flowers axillary, sessile or subsessile, petals absent, stamens 2, style straight; capsule 2-valved; in pools, streams, swamps. South Africa, Zimbabwe, Zambia, Angola, and Cameroon. This is the only record of this species from Malawi and since it has not previously been listed in *Flora zambesiaca* from Malawi, and this collection is not confirmed, it must be viewed with some reservation.

Malawi. Nyika National Park, without locality or collecting details (Patel 1997).

Rotala hutchinsoniana R.Fern.

Creeping herb with underground runners and reddish stems to 80 mm long, rooting at the nodes; leaves decussate or in 3s, triangular to ovate, 3–6 mm long; flowers axillary, sessile, petals 4, stamens 4, style straight; capsule 2-valved; in mud on shores of lakes or ponds. Malawi and Zambia. Endemic to the *Flora zambesiaca* area.

Source. *Flora zambesiaca* 4: 322 (1978).

Malawi. Nyika Plateau, Lake Kaulime, 1958, *Robson & Angus 325* (LISC).

Rotala cf. wildii R.Fern. ✧

Erect annual herb *ca* 60 mm tall, with unbranched stems; leaves decussate, more or less sessile, linear below, narrowly ovate above, 3–5 mm long, base broadly cuneate; flowers axillary, sessile, petals absent, stamens 3, style recurved, calyx *ca* 1.5 mm long, lobes acute; capsule 2-valved, ellipsoid to obovoid; in shallow, seasonally inundated rock pools, in montane grassland; 2,250 m. This collection keys out to *R. wildii*, but that species is known only from a single collection from N.E. Zimbabwe and therefore this collection requires further confirmation.

Malawi. Nyika National Park, 6.2 km from Lake Kaulime on Zungwara Loop Road, 2000, *Burrows & Burrows 6881* (MAL, PRE, UZL, Buffelskloof Herbarium).

MALVACEAE

Abutilon angulatum (Guill. & Perr.) Mast. var. **macrophyllum** (Baker f.) Hochr.

Yao: chiyusa, msiri

Erect, glaucous, yellowish or brownish shrub 1–3 m tall, older stems markedly angular or ridged, all parts finely hairy; leaves cordate-roundish to cordate-ovate, to 300 x 250 mm, dark glaucous grey-green above, much paler greyish below, margins serrate, petiole stout, as long as the lamina; flowers yellow to orange or apricot; on forest margins, in montane scrub or riverine bush; 1,700–2,200 m. South Africa to Namibia, Zimbabwe, Mozambique, and Malawi. Nyika is the northernmost locality for this variety.

Source. *Flora zambesiaca* 1(2): 488 (1961); White *et al.* (2001: 353).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Manyenjere, Kasoma and Chowo Forests (Dowsett-Lemaire 1985: 322); S.W. of (Zambian) Rest House, 1958, *Robson 308* (BM, K, LISC, SRGH).

Zambia. Nyika Plateau, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 322).

Abutilon longicuspe Hochst. ex A.Rich. ✧

Perennial shrub to 5 m tall, as for *A. angulatum*, but with the older stems not angular, and the flowers pale mauve, lavender or lilac with a dark red-purple centre; on forest margins, in forest regrowth, and scrub on lower mountain slopes; 1,000–2,000 m. Zimbabwe and Mozambique northwards to Ethiopia.

Source. *Flora zambesiaca* 1(2): 488 (1961); Brummitt (1973: 68).

Malawi. Nyika Plateau, forest 3 km E. of Nganda, 1972, *Brummitt & Syngé 90* (K, MAL).

Azanza garckeana (F.Hoffm.) Exell & Hillc. ✧

Thespesia garckeana F.Hoffm.

Chichewa: matodo, matowo (fruits), mtowi, ntowo; *Yao:* mtowo

Tree to 10 m tall with rough dark grey bark; leaves alternate, simple, palmately 3- to 5-lobed, up to 200 x 200 mm, hairy or not, petiole to 130 mm long; flowers trumpet-shaped, to 60 mm diameter, petals overlapping, yellow or purplish with a dark purple centre; fruit a reddish capsule to 40 x 30 mm, hairy; in a wide variety of woodland types; 0–2,000 m. Eastern and southern tropical Africa. The timber is used for axe handles and knife sheaths.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Hibiscus acetosella** Welw. ex Hiern

Chichewa: limanda; *Yao:* linyolo

Annual or perennial herb; leaves roundish in outline, 3- to 5-lobed, to 80 x 80 mm, glaucous, tinged red; flowers up to 100 mm in diameter, purple-red or lemon yellow; a weed of roadsides or cultivated as a vegetable/salad. Possibly wild in Angola, probably cultivated elsewhere.

Source. *Flora zambesiaca* 1(2): 438 (1961); UZL.

?Zambia. 1961, *Fitzgerald 3187* (UZL).

Hibiscus calyphyllus Cav.

Hibiscus ovalifolius (Forssk.) Vahl; *Hibiscus wildii* Suess.

Perennial herb or shrub to 3 m; leaves roundish in outline, faintly to distinctly 3- to 5-lobed, hairy; flowers to 120 mm diameter, yellow with a red-brown centre; in rainforest, riverine forest, thickets, and grassland. Widespread in tropical Africa, Madagascar, and the Mascarenes.

Source. *Flora zambesiaca* 1(2): 459 (1961).

Malawi. Nyika Plateau, without locality or collecting details (Mill 1979).

***Hibiscus cannabinus** L. ✧

kenaf, Java jute, Bombay hemp; *Chichewa:* (mt)sonkwe

Annual herb to *ca* 2 m tall, stems prickly; leaves roundish in outline, palmate with 3–7 elliptic lobes; flowers up to 10 mm diameter, pale yellow, whitish or greyish with a purple centre; cultivated or as a weed of cultivated or disturbed land. Probably a native of India, but now widely cultivated throughout the tropics. Produces a good quality fibre and is grown to provide string. Leaves and flowers are occasionally cooked as a vegetable.

Source. *Flora zambesiaca* 1(2): 441 (1961)

Malawi. Nyika National Park, without locality or collecting details (Mill 1979), Nyika Plateau, 1896, *Whyte s.n.* (K).

Hibiscus debeerstii De Wild. & Th.Dur.

Hibiscus nyikensis Sprague

Perennial herb 1–1.5 m tall; leaves narrowly oblong-lanceolate, to 100 x 25 mm, base truncate to more or less cordate, 5-nerved, margins serrate, hairy on both surfaces; flowers scarlet, 25–35 mm diameter; in upland grasslands and along river-banks; 1,300–2,100 m. Malawi, Mozambique, Zambia, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 1(2): 452 (1961); Brummitt (1973: 68).

Malawi. Nyika National Park, S. slopes of Kawozya, 1972, *Brummitt & Syngé 189* (K).

Hibiscus lobatus (Murr.) O.Kuntze

Annual herb 0.5–1.3 m tall, stems hairy; leaves roundish, unlobed or 3- to

5-lobed, hairy on both surfaces; flowers 10–20 mm diameter, white or yellowish, few-flowered; in woodland, river valleys, and roadsides; 300–1,400 m. Tropical Africa, Madagascar, and tropical Asia.

Source. *Flora zambesiaca* 1(2): 445 (1961).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Hibiscus ludwigii Eckl. & Zeyh.

Shrub or perennial herb 2–3 m tall; leaves roundish in outline, to 80 × 80 mm, faintly or distinctly 3- to 5-lobed, base cordate, margins serrate, hairy on both sides; flowers to 70 mm diameter, yellow with a purple or red centre; on forest margins; to 2,400 m. E. Zimbabwe, Malawi, northwards to Ethiopia. Very rare in the *Flora zambesiaca* area.

Source. *Flora zambesiaca* 1(2): 461 (1961); Brummitt (1973: 68).

Malawi. Nyika National Park, N.E. foot of Nganda, 1972, *Brummitt & Sygne* 117 (K, MAL).

Zambia. "Known from the Zambian side of the Nyika" (Brummitt 1973: 68) but no specimen seen.

Hibiscus physaloides Guill. & Perr.

Chichewa: mtsonkwe, nkhwekwe, thelele thengo; *Ngoni:* wemphe

Annual herb to 2 m tall, stems with irritant hairs; leaves to 200 × 150 mm diameter, roundish in outline, 3- to 7-digitately lobed, hairy on both surfaces, with chalky secretions near the leaf base below; flowers ca 90 mm diameter, yellow to yellowish orange with reddish centres; in stony, usually dry places. Widespread in tropical Africa. The stems yield strong white fibre; the flowers are sometimes cooked as a vegetable.

Source. *Flora zambesiaca* 1(2): 464 (1961).

Malawi. Nyika National Park, 2,350 m, 1903, *McClounie* 182 (K); without locality or collecting details (Mill 1979).

Hibiscus rhodanthus Gürke apud Schinz

Chichewa: katambala

Perennial herb 50 mm to 1 m tall, producing annual shoots from a woody rootstock; leaves oblong to oblong-elliptic, 220–130 × 8–30 mm, base tapering to rounded, variously hairy, margins distantly serrate; flowers 25–40 mm diameter, red; in open woodland and grassland; 1,150–2,300 m. Zimbabwe, Zambia, Angola, Mozambique, Malawi, and Tanzania.

Source. *Flora zambesiaca* 1(2): 457 (1961); UZL.

Malawi. Nyika National Park, without precise locality, 1947, *Benson* 1438 (BM).

Zambia. Nyika Plateau, without precise locality, 1956, *Benson* NR 162 (BM); 1955, *Lees* 70 (UZL).

Kosteletzkya adoensis (Hochst. ex A.Rich.) Mast. ✧

Shrub to 2 m tall; leaves 30–65 × 30–75 mm, ovate in outline, faintly 3- to 5-lobed, base cordate, 3- to 5-nerved from the base, margin serrate, hairy

on both surfaces; flowers 10–15 mm diameter, pink or purplish; in forest clearings, scrub or grassland; 1,000–2,350 m. Zimbabwe to Ethiopia; also in Madagascar.

Source. *Flora zambesiaca* 1(2): 474 (1961).

Malawi. Nyika National Park, 2,350 m, 1896, *Whyte* s.n. (K).

Pavonia columella Cav. ✧

Erect to spreading shrub or suffrutex 1–2 m tall, stems densely to faintly hairy; leaves broadly ovate to roundish in outline, 25–120 mm long, 3- to 5-lobed, lobes acute, both surfaces hairy; flowers mauve to pink or reddish, calyx whitish with 3 dark nerves, epicalyx with 5 bracts; in montane areas in scrub, riverine bush, on forest margins; 1,200–1,500 m. South Africa to Uganda; also on Réunion and Madagascar.

Source. *Flora zambesiaca* 1(2): 488 (1961); *White et al.* (2001: 355).

Malawi. Nyika National Park, without locality, 1935, *Lawrence* 179 (K); Zovochipolo Forest (*Dowsett-Lemaire* 1985: 335).

Zambia. Nyika Plateau, Chowo Forest, 7,100', 1975, *Pawek* 10014 (K, MO, SRGH, UC); 1976, *Phillips* 1724 (K, MO).

Pavonia urens Cav.

Similar to *P. columella*, but differing in having stinging hairs, a calyx of uniform colour, and an epicalyx with 6–12 bracts; on forest margins and in forest regrowth; 1,550–2,200 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 1(2): 488 (1961); Brummitt (1973: 68); *Dowsett-Lemaire* (1985: 335); *White et al.* (2001: 355).

Malawi. Nyika National Park, W. foot of Nganda, 1972, *Brummitt & Sygne* 33 (K).

Sida alba L. ✧

Annual or perennial woody plant, or suffrutex, 300–750 mm tall, stems erect or trailing, slightly angular; leaves 20–50 × 5–30 mm, ovate to oblong-lanceolate, margin sharply serrate, base truncate to rounded, upper surface dark green, lower surface whitish, hairy; flowers white or yellow; ruderal in woodland and grassland; widespread in Africa; also in America.

Source. *Flora zambesiaca* 1(2): 477 (1961).

Malawi. Nyika Plateau, without precise locality, 1903, *McClounie* 164 (K).

***Urena lobata** L. ✧

bun ochra; *Yao:* msapatonje; *Sukwa:* kolokondwe

Suffrutex or shrub 1–3 m tall, stems with stellate hairs; leaves palmate with 3–5 lobes, roundish or linear oblong in outline, margin serrate, with a conspicuous gland near the base of the midrib; flowers single, rose-pink or mauve, petals 1–15 mm long; a widespread weed of cultivation, occurring throughout the tropics. Sometimes cultivated as a fibre crop; the flowers are also eaten as *ndiwo*.

Malawi. Nyika National Park, Kasewerera, 2001, without collecting details (Patel & Overton 2002: 40).

MELASTOMATACEAE

Many collections of *Dissotis melleri* and *Dissotis princeps* have not been identified to subspecific level and are therefore excluded here.

Antherotoma naudinii Hook.f. ✧

Delicate annual herb with usually unbranched, square stems to 300 mm tall, usually much less; leaves opposite, 5–45 × 1–20 mm, 3- to 5-nerved, entire or toothed, sparsely bristly on both surfaces; flowers in terminal groups, mauve to pale pink; in damp areas over rock, moist woodlands, grasslands, and dambos. Widespread in tropical Africa and Madagascar.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White* 2570 (COI, FHO, K).

Dissotis caloneura Gilg ex Engl. var. *indet.*

Shrub or small tree to 4 m high, bark flaking in strips; leaves opposite, broadly ovate to ovate-lanceolate, sparsely bristly, rarely glabrous; flowers purplish mauve, receptacle 10-ribbed, glabrous (var. *caloneura*) or with bristles (var. *pilosa*); in exposed situations among rocks in rocky outcrops.

Zambia, D.R.C., Burundi, and Tanzania (var. *caloneura*), endemic to Zambia (var. *pilosa*).

Source. *Flora zambesiaca* 4: 253 (1978).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White* 2736 (COI, FHO, K), specimen sterile, variety not established.

Dissotis melleri Hook.f. var. *melleri* ●

Dissotis whytei Baker f.

Small tree up to 6 m tall; leaves 45–160 mm long, ovate-lanceolate, discolorous, underside of leaves with obscure venation; flowers purple, receptacle with bristles not capitate-glandular; in exposed situations on cliffs and in rock crevices or mountain slopes in high-altitude grassland. Mozambique, Malawi, Zambia, and Tanzania.

Source. *Flora zambesiaca* 4: 254 (1978).

Zambia. Nyika Plateau, near Rest House, 1950, *Benson* NR172 (BM).

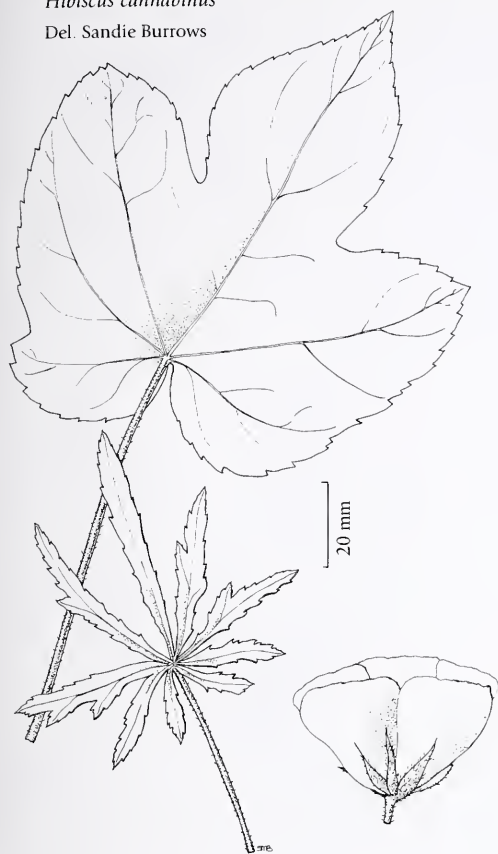
Dissotis melleri Hook.f. var. *greenwayi* (A.Fern. & R.Fern.)

A.Fern. & R.Fern.

As for var. *melleri*, but with the reticulation of the veins prominent on the

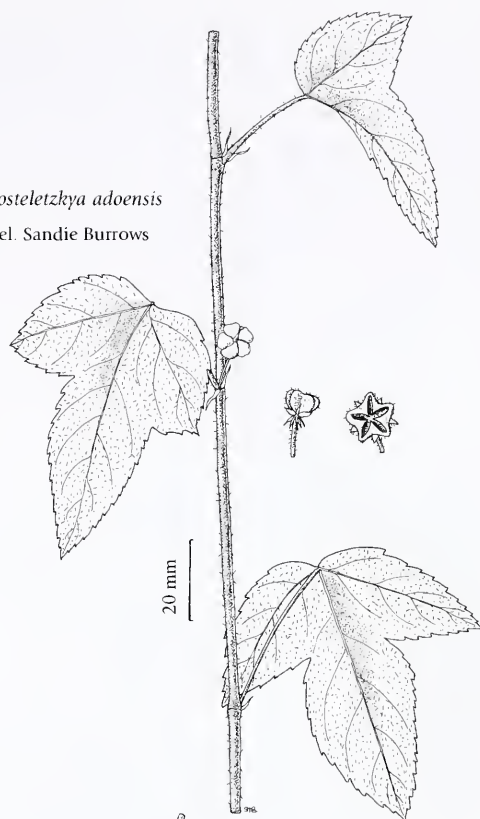
Hibiscus cannabinus

Del. Sandie Burrows



Kosteletzkyia adoensis

Del. Sandie Burrows



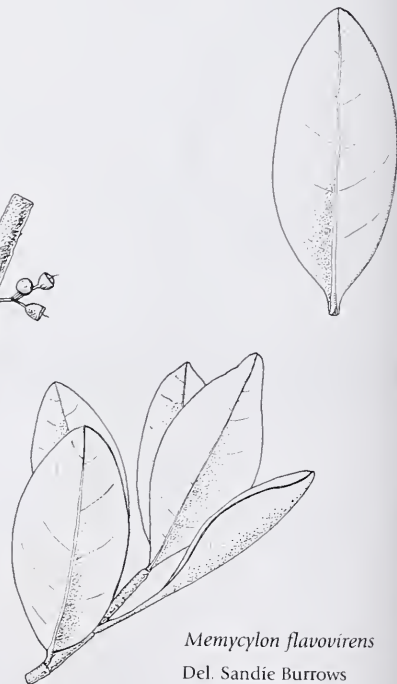
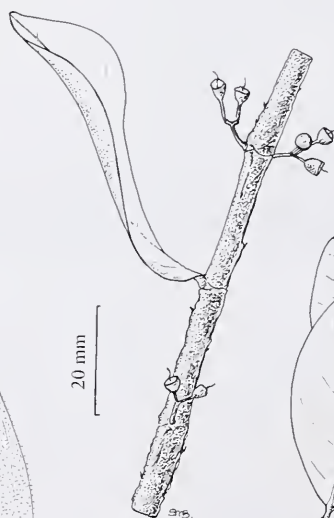
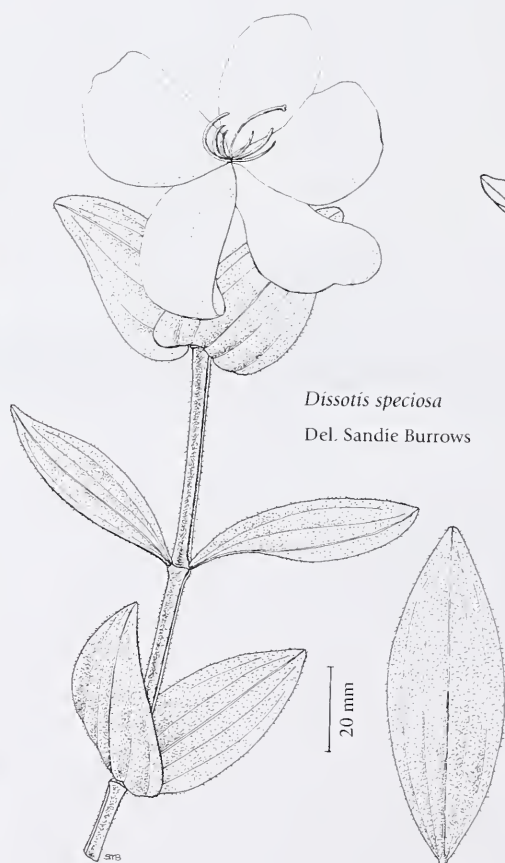
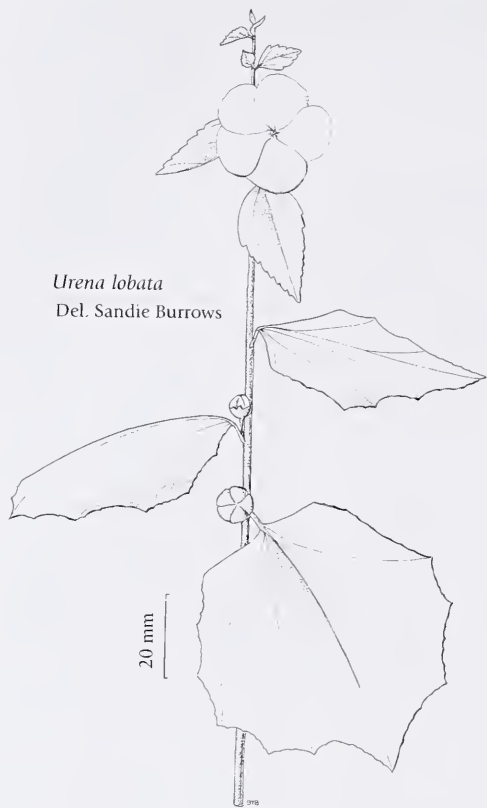
Pavonia columella

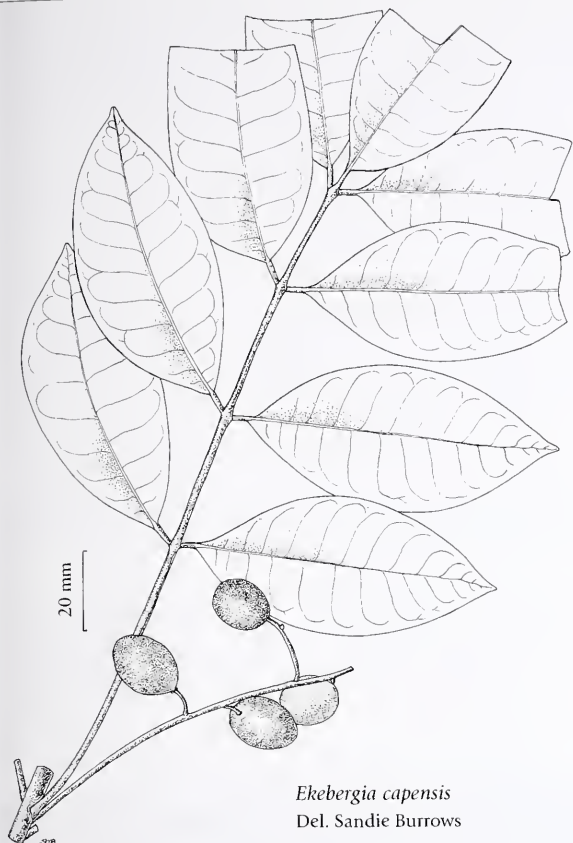
Del. Sandie Burrows



Sida alba

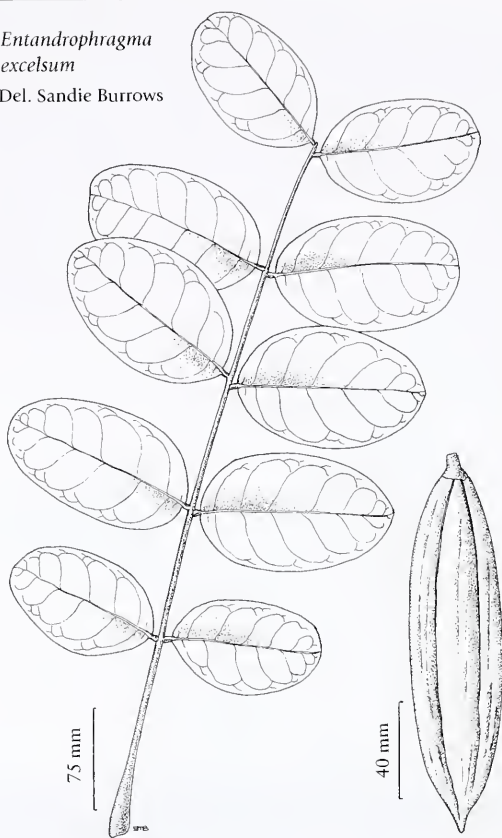
Del. Sandie Burrows



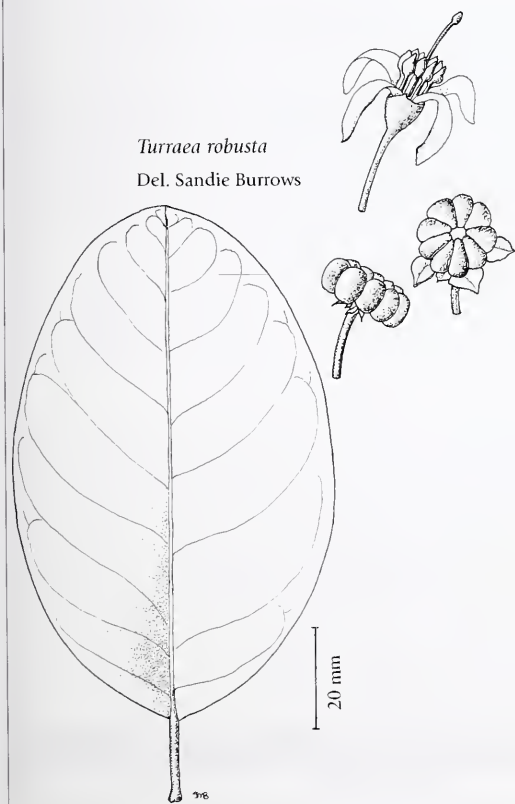


Ekebergia capensis
Del. Sandie Burrows

*Entandrophragma
excelsum*
Del. Sandie Burrows



Turraea robusta
Del. Sandie Burrows



Lepidotrichilia volkensii
Del. Sandie Burrows

lower leaf surface, and the receptacle with at least some bristles with capitate-glandular red tips. Malawi, Zambia, and Tanzania.

Malawi. Nyika National Park, 2 km W. of Muzengapakweru, 1972, *Synge* 328 (K, MAL, SRGH, FHO).

Zambia. Nyika Plateau, without locality, 1960, *Coxe* 33 (SRGH).

Dissotis princeps (Kunth) Triana var. **princeps** ●

Dissotis bamendae Brenan & Keay

Chichewa: chiušo

Much-branched shrub 2–4 m tall; leaves usually in whorls of 3, sometimes opposite or in 4s, petiole 5–40 mm long; flowers large, lilac to dark purple or violet, receptacle set with elongate, densely-bristled appendages; in wooded grassland, upland rainforests, and riverine forests. Widespread in tropical Africa. An attractive ornamental shrub.

Source. *Flora zambesiaca* 4: 265 (1978).

Zambia. Nyika Plateau, Nyika Rest House, near the Shire Road, 1960, *Chapman* 773 (COI, FHO, SRGH).

Dissotis princeps (Kunth) Triana var. **candolleana** (Cogn.)

A.Fern. & R.Fern.

As for var. *princeps*, but with the receptacle bearing only short, sparsely bristled appendages; in swampy grasslands, along streams, and in moist woodlands. South Africa northwards throughout tropical Africa.

Source. Brummitt (1972); *Flora zambesiaca* 4: 264 (1978).

Malawi. Nyika National Park, N.W. foot of Nganda, 1972, *Brummitt & Syngé* 13 (K, MAL, SRGH, FHO).

Zambia. Nyika Plateau, Rest House on path to N. Rukuru Waterfall, 1958, *Robson* 396 (K, LISCI).

Dissotis senegambiensis (Guill. & Perr.) Triana

Annual or perennial herb to 2 m tall, petiole 2–10 mm long, slender;

leaves opposite, on main stem, leaves folded and reflexed, 15–90 mm long, narrowly lanceolate to elliptic-oblong; flowers pale to light purple, receptacle with white hairs and with longish appendages tipped with 1 to few bristles; moist places, forest edges, banks of rivers. Widespread in tropical Africa. None of the specimens identified from Nyika have been keyed down to subspecific level (*vide Flora zambesiaca* 4: 268, 1978).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Makhanga, 12 km from Thazima Gate, 2000, *Mwanyambo* 516 (MAL).

Dissotis speciosa Taub. ✧

Dissotis macrocarpa Gilg

Much-branched shrub to 2 m tall; leaves sessile or petiole to 3 mm long, opposite, to 75 x 20 mm, flowers violet, petals 30–35 x 25–27 mm; in marshy places, mainly along rivers. Malawi and Zambia to D.R.C. and Sudan.

Source. Brummitt (1973: 69); *Flora zambesiaca* 4: 258 (1978).

Without locality. Nyika Plateau, without precise locality, 1986, *Whyte* s.n. (K).

Malawi. Nyika Plateau, E. foot of Nganda, 1972, *Brummitt & Syngé* 122 (K, MAL, SRGH).

Memecylon flavovirens Baker ✧

Shrub to 5 m, or tree to 7.5 m, twigs square; leaves opposite, yellowish green, young leaves conspicuously glaucous; fruit ovoid-ellipsoid, ca 13 x 7 mm, blue-black when ripe; mainly in *Brachystegia*–*Julbernardia* woodland, sometimes on escarpments, on dry stony ground. Malawi, Zambia, Angola, and Tanzania.

Malawi. Nyika Plateau, without locality or collecting details (Mill 1979); Chisanga Falls, 2000, *Burrows & Burrows* 6784 (MAL, PRE).

MELIACEAE

Ekebergia capensis Sparrm. ✧

Ekebergia buechananii Harms

Semi-deciduous or evergreen tree to 30 m, bark smoothish grey; leaves imparipinnate, rachis and petiole not winged, leaflets in 3–6 pairs, lanceolate to oblong-lanceolate, base asymmetric, apex acute, more or less hairless throughout; flowers creamy white, small, in clusters; fruit a small pink, maroon or black berry to 15 mm diameter; in montane and riverine forest; 1,600–2,450 m. South Africa to Senegal and Ethiopia; occurs in the *Juniperus* forest on the Nyika Plateau.

Source. *Flora zambesiaca* 2(1): 316 (1963).

Malawi. Nyika National Park, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 314).

Zambia. Nyika National Park, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 314).

Entandrophragma excelsum (Dawe & Sprague) Sprague ✧

Entandrophragma stolzii Harms

Chichewa: mululu; *Tumbuka:* mukarikari

Large shortly deciduous tree to 45 m tall or more, bole buttressed up to 4 m, bark rough, scaly in old specimens; leaves paripinnate with 5–7 pairs of leaflets, distal leaflets with asymmetric bases, reticulate venation prominent; flowers small, greenish white in loose axillary clusters; fruit a woody 5-valve capsule 120–180 x 30 mm, seeds winged; an occasional emergent in the montane forest of the Nyika; 1,600–2,200 m. N. Malawi and N.E. Zambia to D.R.C., Uganda, and Tanzania; reaches its southern limit on the Viphya. The timber is of high quality, but the species is threatened in many forests because it is sought after for the production of canoes.

Malawi. Nyika National Park, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 314).

Zambia. Nyika Plateau, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 314).

Lepidotrichilia volkensii (Gürke) J.-F.Leroy ✧

Trichilia volkensii Gürke

Chichewa: nandolo

Small to medium tree 5–10 m tall, bole fluted, branches arching; leaves imparipinnate, with 3–4 pairs of pinnae, base markedly asymmetric, upper surface dark green, more or less hairless, lower surface hairy with minute red and black glands; flowers creamy white to yellowish, fragrant, in axillary clusters; fruit small, 2- to 3-locular, to 15 x 10 mm, encrusted with stellate scales; in understorey of montane forest; 1,400–2,300 m. From Malawi through eastern Africa to Ethiopia.

Malawi. Nyika National Park, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 317).

Zambia. Nyika Plateau, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 317).

Turraea robusta Gürke ✧

Small tree 2–10 m tall, young branches densely hairy, older branches reddish with white lenticles; leaves alternate, simple, obovate to elliptic, lower surface hairy with conspicuous tufts of hairs in the vein axils; flowers in terminal or axillary clusters, petals 12–14 x 4 mm, creamy white tinged with green; fruit a woody capsule 6 x 10 mm; in evergreen forest, secondary forest, *Brachystegia* woodland, and on termite mounds; 1,200–2,000 m. Malawi and Zambia northwards to Kenya. Not listed for Nyika by Dowsett-Lemaire (1985).

Source. *Flora zambesiaca* 2(1): 309 (1963).

Malawi. Nyika Plateau, without precise locality, 1903, *McClounie* 149 (K); Juniper Forest, 2000, *Chikuni* 513 (MAL).

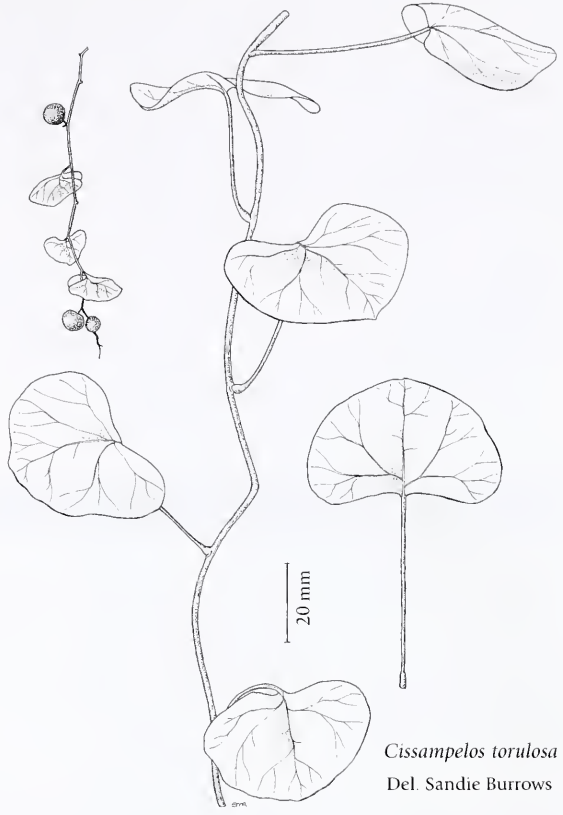
MELIANTHACEAE

Bersama abyssinica Fresen. subsp. **abyssinica** ✧

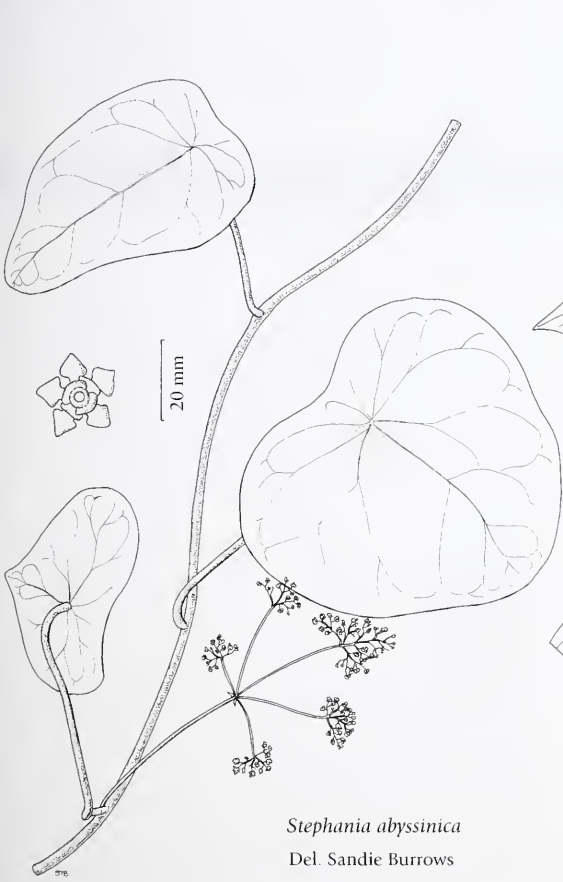
Chichewa: chiwindu, mkanga, nkanga; *Ngoni:* nakatimba

Small to medium tree 6–16 m tall; leaves alternate, imparipinnate, less than 500 mm long, rachis not winged, adult leaflets entire, glabrous, venation

Bersama abyssinica
subsp. *abyssinica*
Del. Sandie Burrows



Cissampelos torulosa
Del. Sandie Burrows



Stephania abyssinica
Del. Sandie Burrows



Tiliacora funifera
Del. Sandie Burrows

not sunken above, petiole glabrous; flowers in terminal racemes to 350 mm long, pinkish; fruit a 4- to 5-valved capsule, smooth, hairy or not, seed bright red, aril yellow; on forest margins or in forest; 1,400–2,400 m. Malawi and Mozambique northwards to Ethiopia.

Malawi. Nyika National Park, head of Mondwe Valley, 2,285 m, 1972, *Brummitt & Syngé* 243 (K); near Juniper Forest, 2000, *Burrows & Burrows* 6937 (MAL, PRE).

Zambia. Nyika Plateau, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire (1985: 316)).

Bersama abyssinica Fresen. subsp. **englerana** (Gürke)

F.White

Bersama englerana Gürke

As for var. *abyssinica*, but the rachis of the leaf narrowly or broadly winged, leaflets entire or deeply serrate, sometimes with hairs below, venation sometimes sunken above; in forest gaps, forest margins, and transitional woodland; 800–2,400 m. Zimbabwe to Nigeria, Sudan, and Ethiopia. Possibly only an intermediate form between subsp. *abyssinica* and subsp. *nyassae*.

Source. Dowsett-Lemaire (1985); White *et al.* (2001).

MENISPERMACEAE

Cissampelos torulosa E.Mey. ex Harv. ✧

Slender twiner; leaves simple, broadly to very broadly ovate, often broader than long, base shallowly to deeply cordate, apex rounded, sometimes minutely mucronate, grey-green, hairless, petiole very slender, 15–50 mm long; on forest margins and in high-rainfall woodland. South Africa to Malawi and Zambia (Nyika only). It appears that this Nyika collection represents the northernmost occurrence of this species.

Source. White (1962: 431).

Zambia. Nyika Plateau, without locality, 1958, *Robson* 414 (K).

Stephania abyssinica (Quart.-Dill. & A.Rich.) Walp. ✧

Slender climber or twining vine, sometimes reaching 20 m, but usually less; leaves distinctive, ovate to almost round, peltate, glabrous (var. *abyssinica*) or hairy (var. *tomentella* (Oliv.) Diels); in or on edges of montane forests, montane scrub, and riverine scrub; up to 2,500 m. Widespread throughout tropical Africa.

Source. *Flora zambesiaca* 1(1): 170 (1960); White *et al.* (2001: 376).

Malawi. Nyika Plateau, Kasyaula and Zovochipolo, *Dowsett-Lemaire* 352 (OXF).

Zambia. Nyika Plateau, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire (1985: 316)).

Bersama abyssinica Fresen. subsp. **nyassae** (Baker f.)

F.White

Bersama abyssinica subsp. *paullinioides* var. *nyassae* (Baker f.) Verdc.

As for var. *abyssinica*, but with the petiole and lower leaf surface densely hairy, the leaf rachis broadly winged, the venation impressed above, margins serrated or not; on forest margins, often on rocky outcrops, never in forest; 1,000–2,200 m. Zimbabwe, Zambia, D.R.C., Tanzania, Malawi, and Mozambique.

Source. Dowsett-Lemaire (1985: 385).

Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests, *Dowsett-Lemaire* 353 (OXF); Mwanembwe Forest, 6,500', 1963, *Chapman* 2102 (FHO).

Zambia. Nyika Plateau, headwaters of Shire Road (Chowo Rocks), 1952, *White* 2787 (FHO, K); *ibid.*, 1960, *Adlard* 328 (FHO).

Malawi. Nyika National Park, Juniper Forest, 2000, *Chapama* 219 (MAL); Kasyaula and Zovochipolo Forests, without collecting details (Dowsett-Lemaire 1985: 320).

Zambia. Manyenjere, Kasoma and Chowo Forests, without collecting details (Dowsett-Lemaire 1985: 320).

Tiliacora funifera (Miers) Oliv. ✧

Chichewa: chiropa; *Yao:* nyanya

Liane with stems up to 100 mm in diameter, bearing dense clusters of fruits almost to ground-level; leaves ovate-lanceolate to ovate-oblong, 50–200 x 30–100 mm, base rounded to cordate, usually 3-veined from the base, petiole 15–50 mm long, somewhat swollen and distinctly bent just below the lamina; in drier or mid-altitude forests, often reaching the canopy; 1,350–2,000 m. South Africa northwards through central and W. Africa.

Source. *Flora zambesiaca* 1(1): 155 (1960); White *et al.* (2001: 378).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); N. Rukuru Road, 1,700–1,750 m (Dowsett-Lemaire 1985: 362).

MIMOSACEAE

Acacia abyssinica Hochst. ex Benth. subsp. **calophylla**

Brenan ✧●

Chichewa: mtsidzi

Large strikingly flat-topped thorn tree, bearing slender straight greyish spines, bark pale brown, rough to papery-flaking; leaves 2-pinnate with 15–50 pairs of pinnae, leaflets very small, to 2.5 x 0.4 mm; flowers in round cream-white balls; pods brown, papery, 50–130 x 12–20 mm; in high-altitude wooded grassland and secondary forest, often in wet areas and often gregarious; 900–1,980 m. Zimbabwe to Sudan.

Source. *Flora zambesiaca* 3(1): 99 (1970).

Malawi. Nyika Plateau, without precise locality, 6,500', 1952, *White* 2811 (FHO, K, SRGH); Kasewera, 2001, without collecting details (Patel & Overton 2002).

Zambia. Nyika Plateau, Kasoma Forest (Dowsett-Lemaire 1985: 315); Nyika National Park, western part of Park, 2000, *Phiri* 3983 (UZL).

Acacia albida Delile

Faidherbia albida (Delile) A.Chev.

winter thorn, apple ring acacia; *Tumbuka:* msangumsangu; *Yao:* msangumsangu

Large tree to 30 m tall, deciduous in summer, branchlets with straight or slightly curved spines; leaves 2-pinnate with 3–10 pairs of pinnae and 6–23 pairs of leaflets; flowers in creamy spikes; pods distinctively coiled or twisted, orange or reddish brown; on alluvial soils at low altitudes, in riverine forest, and valleys. Throughout tropical Africa, to S.W. Asia. Both livestock and game alike relish the ripe pods.

Source. Brummitt (1973: 63).

Malawi. Nyika, Chipome Valley, 1,465 m, 1972, *Syngé* 268 (K, MAL, SRGH, FHO).

Acacia amythetophylla Steud. ex A.Rich.

Acacia macrothyrsa Harms

Chichewa: chipeta, mkhumbu, nafungwe; *Tonga:* chitongololo

Small to medium tree 2–10 m tall, bearing straight brown spines to 20 mm long, bark rough, fissured; leaves large, 2-pinnate with 9–16 pairs of pinnae and 12–70 pairs of leaflets; flowers in a panicle of yellow balls; pods brown to blackish, straight, 70–200 x 15–25 mm; in woodland and wooded grassland; 300–1,500 m. Zimbabwe to Ghana and Sudan.

Source. Brummitt (1973: 63).

Malawi. Nyika, Chipome Valley, 1972, *Syngé* 266 (K, MAL, FHO).

Acacia galpinii Burt Davy

monkey thorn; *Chichewa:* nkungu, ngundanjira; *Yao:* nkunku

Large deciduous tree 8–25 m tall, thorns curved or straight, in pairs just below nodes; leaves 2-pinnate, with 9–14 pairs of pinnae and 13–40 pairs of leaflets; flowers in creamy spikes; pods flattish, thin, 110–200 x 27–35 mm, purplish brown; in woodland and savanna, often along rivers; 360–1,490 m. South Africa to Botswana, Zambia, and Tanzania.

Source. *Flora zambesiaca* 3(1): 68 (1970).

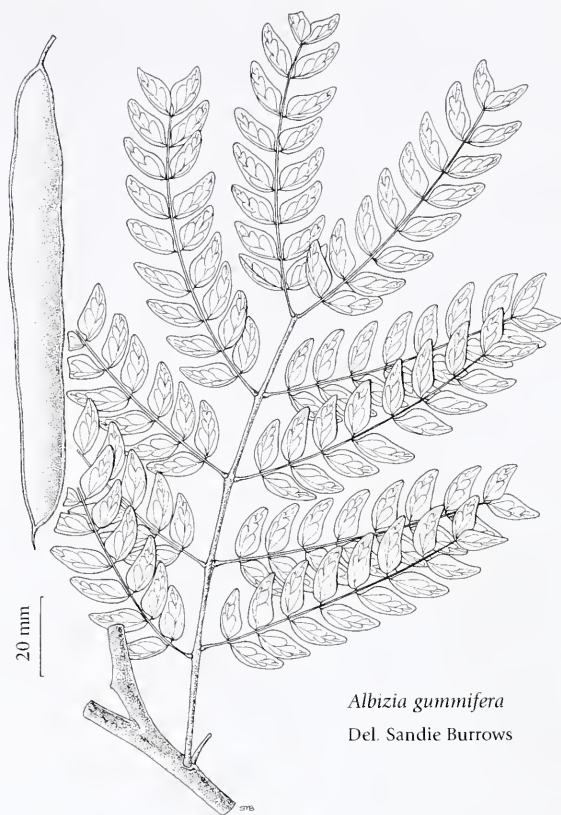
Malawi. Nyika National Park, Chipome Valley, 2001, without collecting details (Patel & Overton 2002: 30).

Acacia gerrardii Benth. subsp. **gerrardii** var. **gerrardii**

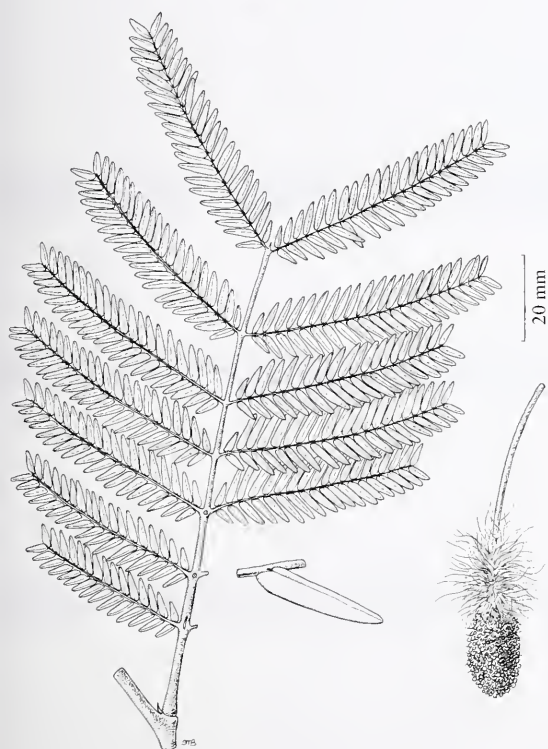
Small to medium tree, 3–15 m tall, bearing short straight spines, bark rough,



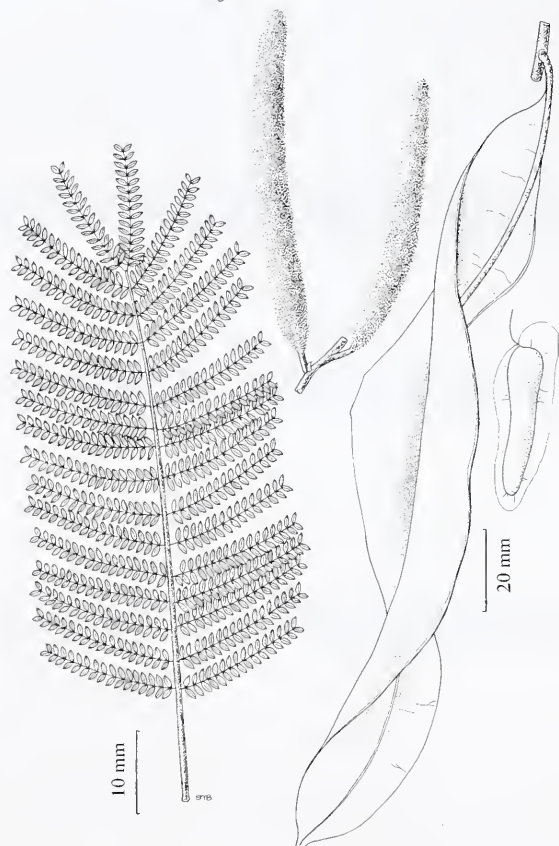
Acacia abyssinica
subsp. *calophylla*
Del. Sandie Burrows



Albizia gummifera
Del. Sandie Burrows



Dichrostachys cinerea
Del. Sandie Burrows



Newtonia buchananii
Del. Sandie Burrows

dark brown to blackish; leaves 2-pinnate with 5–10 pairs of pinnae and 12–23 pairs of leaflets; flowers in white to cream balls; pods linear to falcate, 70–160 × 6–11 mm, finely hairy or not; in woodland and wooded grassland; sea-level to 1,500 m. South Africa to Nigeria and Sudan.

Source. Brummitt (1973: 63).

Malawi. Nyika, Chipome Valley, 1972, *Syngae* 261 (K, MAL, SRGH, FHO).

***Acacia montigena* Brenan & Exell**

Scandent shrub or liane up to 30 m high, branches with prickles; leaves 2-pinnate with 7–19 pairs of pinnae, leaflets linear-oblong; flowers white/cream panicles; pods dark brown, thinnish, 80–180 × 30–45 mm; in evergreen forest. Known only from N. Malawi and N. Zambia from the *Flora zambesiaca* area; also in D.R.C., Tanzania, Uganda, and Kenya.

Malawi. Nyika Plateau, Kasyaula, *Dowsett-Lemaire* 253 (herbaria not stated).

Zambia. Nyika Plateau, Manyenjere and Kasoma Forests (*Dowsett-Lemaire* 1985: 319).

***Acacia sieberiana* DC. var. *woodii* (Burt Davy) Keay & Brenan**

paper bark acacia; *Chichewa*: minganzolo, mtzidzi; *Tonga*: mungaatuwa; *Yao*: mlonga, mtete, nkwangwa

Flat-topped tree to about 15 m tall, branchlets hairy, bearing long whitish straight spines, bark rough, light to dark brown; leaves 2-pinnate with 6–23 pairs of pinnae and 14–45 pairs of leaflets; flowers in white to yellowish balls; pods thick, 90–200 × 17–35 mm; in woodland and wooded grassland; 700–1,620 m. South Africa (KwaZulu-Natal) to Tanzania. Easily confused with *A. abyssinica*, but has thick, not papery, pods. The variety *sieberiana*, which has hairless branchlets, could also occur on Nyika; it is recorded from Vipha in the S., and northwards into tropical Africa.

Source. Brummitt (1973: 63).

Malawi. Nyika, Chipome Valley, 1972, *Syngae* 264 (K).

***Albizia antunesiana* Harms**

Small to medium unarmed tree 6–15 m tall, bark roughish; leaves 2-pinnate, with 1–4 pairs of pinnae and 4–9 pairs of leaflets, glabrous, often purplish-green above, paler to glaucous beneath; flowers in greenish yellow round heads; pods 120–230 × 27–46 mm, thin, purplish brown; in miombo and other types of woodland; 900–1,680 m. Zimbabwe and Namibia northwards to Angola, D.R.C., and Tanzania.

Malawi. Nyika National Park, Chisimuka, 2001, without collecting details (Patel & Overton 2002: 30).

***Albizia gummifera* (J.F.Gmel.) C.A.Sm. ✧**

Chichewa: chikwani, mtangatanga, ntangatanga; *Yao*: mpumundo

Flat-crowned deciduous unarmed tree to 30 m tall; leaves 2-pinnate with 5–7 pairs of pinnae and 9–16 pairs of squarish or rhombic leaflets, dark glossy green above, paler below; flowers in whitish balls; pods flat, thin, 100–236 × 20–34 mm; in upland rainforest and riverine forest; 1,130–1,580 m (?higher on Nyika). Zimbabwe to Nigeria and Ethiopia; also in Madagascar.

Source. Dowsett-Lemaire (1985: 314).

Malawi. Nyika Plateau, Kasyaula, *Dowsett-Lemaire*, no specimen cited.

Zambia. Nyika Plateau, Kasoma forest, *Dowsett-Lemaire*, no specimen cited.

***Dichrostachys cinerea* (L.) Wight & Arn. ✧**

Chichewa: chipangala, kampangala, namphangala; *Timbuka*: mpangala
Spiny shrub or small deciduous tree, bark rough, fissured, branchlets bearing short spine-tipped side branches; leaves 2-pinnate, with 5–20 pairs of pinnae and 9–40 pairs of leaflets (depending upon the subspecies and variety); flowers in pendulous axillary spikes, purple-fluffy near the stalk, yellow apically; fruit in clusters of twisted brown pods; in woodland or scrub. Widespread in Africa, sometimes regarded as a problematic 'invader' plant. Very variable, with a number of subspecies and varieties. The Nyika material has not been identified to subspecific level.

Source. Brummitt (1973: 63).

Malawi. Nyika, Chipome Valley, 1972, *Syngae* 263 (K).

***Newtonia buchananii* (Baker) Gilbert & Boutique ✧**

Chichewa: mkweranyani, msenjere

Tall canopy or emergent tree 25–35 m tall, unarmed, bark often pale grey to whitish mottled; leaves 2-pinnate, with 12–23 pairs of pinnae and 38–67 pairs of overlapping leaflets, dark glossy green above; flowers in whitish to cream spikes; pods flattish, straight, 100–320 × 13–25 mm, splitting into two long valves, remaining attached along one margin; in evergreen forest; 760–1,830 m. Zimbabwe to Angola, Cameroon, and Kenya. See also comments in Dowsett-Lemaire (1985: 362).

Source. Dowsett-Lemaire (1985: 361).

Malawi. Nyika Plateau, N. Rukuru (Chisanga) Falls, *Dowsett-Lemaire* 334 (herbaria not stated).

MOLLUGINACEAE

***Mollugo nudicaulis* Lam. ✧**

Small rosulate herb with slender leafless inflorescences; leaves in a basal rosette, more or less appressed to the ground, simple, fleshy, oblanceolate to obovate, hairless; flowers whitish; a pantropical weed of wooded sa-

vanna, woodland, riverbeds and margins, roadsides, and cultivated areas.

Source. *Flora zambesiaca* 4: 544 (1978).

Malawi. Nyika Plateau, Nyamkowa (?Nyamkhowa Hill), 1903, *McClounie* 35 (K).

MONIMIACEAE

***Xymalos monospora* (Harvey) Baill. ✧**

lemonwood; *Yao*: mulaka, nakaswaga

Large evergreen shrubs or trees 3–20 m tall, bark pale brown, flaking off in concentric whorled scales; leaves opposite or alternate, leathery, elliptic, margins entire or toothed, shiny green, somewhat quilted above, hairless; flowers yellowish, small; fruit fleshy, ellipsoid, 5–15 mm, orangish; a subcanopy

tree of evergreen forests; 550–3,000 m. South Africa to Cameroon and Sudan. The fruits are edible and the wood is used for furniture and hut poles.

Malawi. Nyika Plateau, Kasyaula and Zovochoipolo Forests, without collecting details (*Dowsett-Lemaire* 1985).

Zambia. Nyika Plateau, Manyenjere, Kasoma, and Chowo Forests, without collecting details (*Dowsett-Lemaire* 1985).

MORACEAE

***Dorstenia benguelensis* Welw. ✧**

Herb with a flattened tuber and annual aerial stems to 500 mm tall, all parts with a milky latex; leaves spirally arranged, thickish, elliptic to ovate, 10–150 × 2–45 mm, finely hairy, margins dentate to crenate; inflorescence axillary, receptacle shallowly plate-shaped with numerous slender appendages of various lengths; in miombo woodland, often associated with termite mounds, or in montane grassland among rocks; 2,250 m. Zimbabwe to Angola, Cameroon, and northwards to Sudan.

Source. Burrows & Burrows (2003).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Ficus abutilifolia* (Miq.) Miq. ✧**

Ficus soldanella Warb.

large-leaved rock-fig

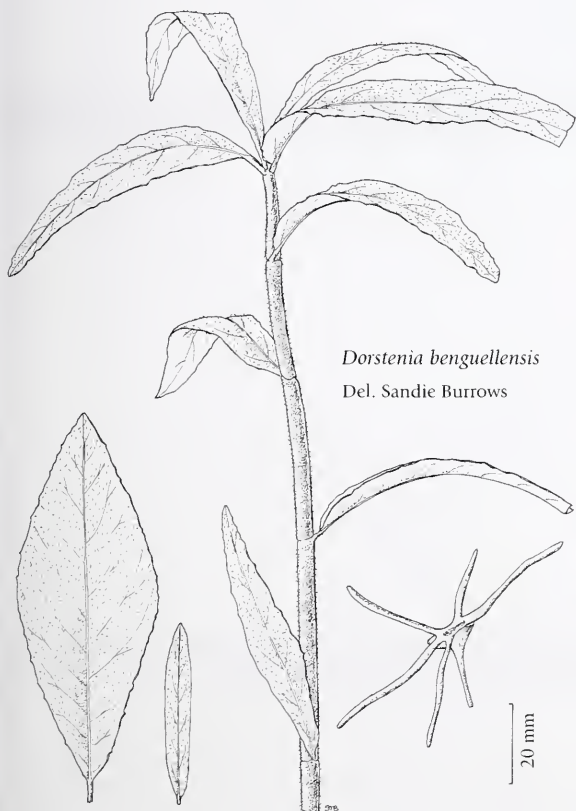
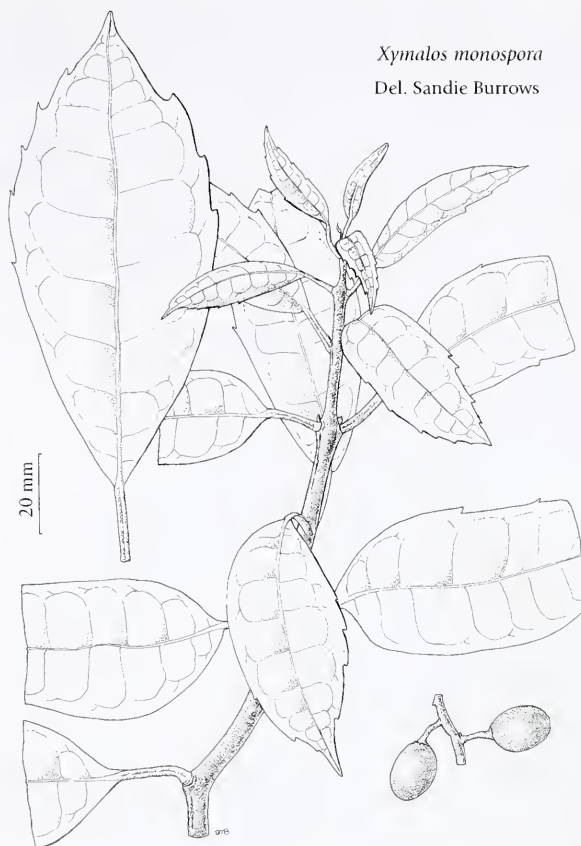
Rock-splitting tree up to 15 m tall, bark smooth, pale creamy white, latex milky; leaves alternate, broadly ovate to almost circular, base cordate to deeply lobed, margins entire, wavy; fruit (figs) single or paired in leaf axils, or clustered on bare twigs, roundish, 15–25 mm diameter, reddish when ripe, more or less hairless; in deciduous woodland in rocky areas; 0–1,000 m. South Africa to Guinea in the W. and Ethiopia and Somalia in the NE. Mill's inclusion of this species is possibly based upon Brummitt's (1973) record of '*F. sp. aff. soldanella*', now *F. abutilifolia*. If so, that record is



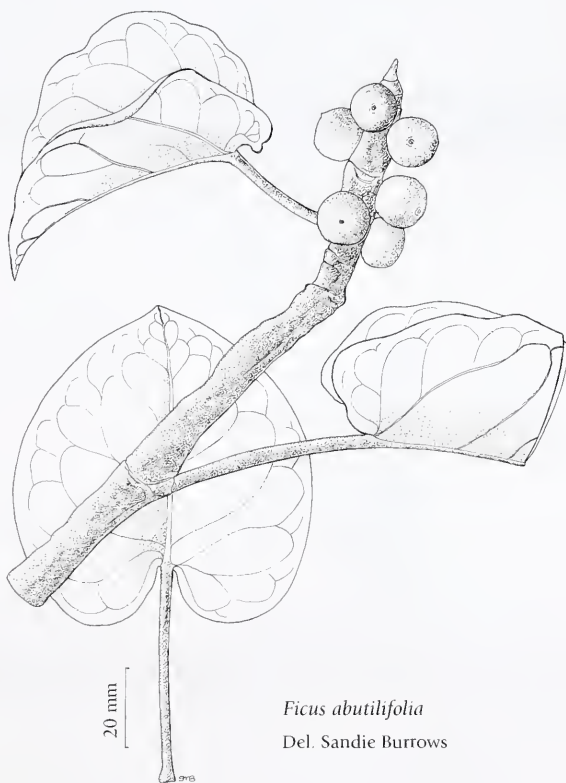
Mollugo nudicaulis
Del. Victoria Goaman



Xymalos monospora
Del. Sandie Burrows



Dorstenia benguelensis
Del. Sandie Burrows

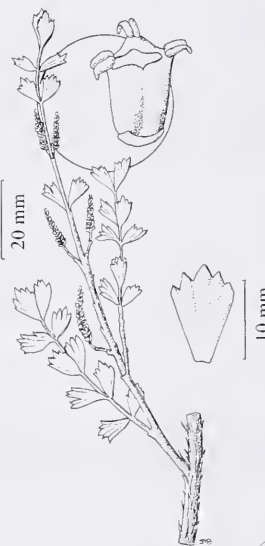


Ficus abutilifolia
Del. Sandie Burrows

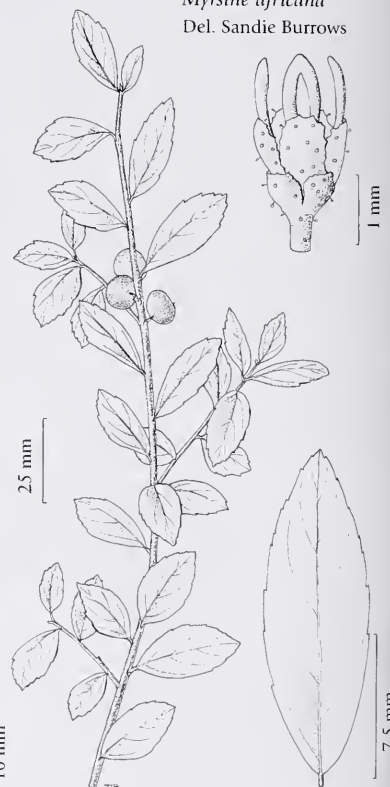
Morella salicifolia subsp. *kilimandscharica* var. *kilimandscharica*
Del. Sandie Burrows



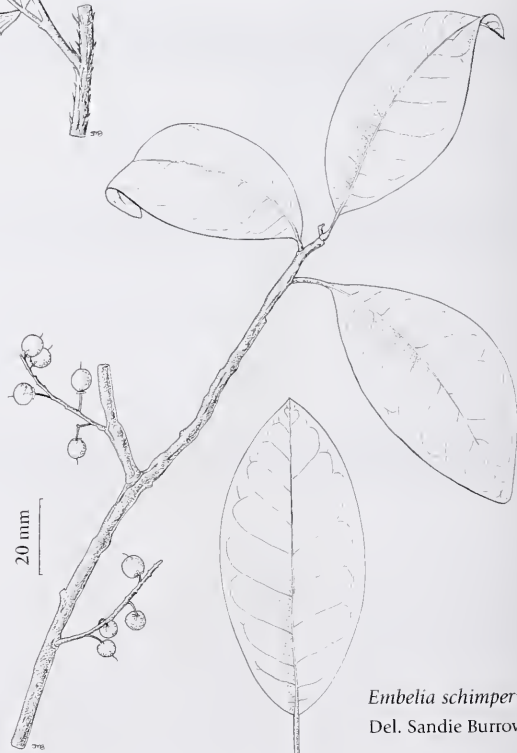
Myrothamnus flabellifolius
Del. Sandie Burrows



Myrsine africana
Del. Sandie Burrows



Maesa lanceolata
Del. Margaret Tebbs



Embelia schimperi
Del. Sandie Burrows

actually referable to *F. ovata* (White *et al.* 2001: 387), in which case *F. abutilifolia* does not occur on the plateau, although it is common at lower altitudes along the Lake.

Source. Burrows & Burrows (2003).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Ficus burkei* (Miq.) Miq., zimbabwensis form**

Ficus thonningii auctt., pro parte, non Blume (1836)

common wild fig; *Chichewa*: kachere

Medium to large briefly deciduous tree, 10–15 m tall, bark grey, smoothish, latex milky, twigs hairy; leaves alternate or whorled, simple, leathery, elliptic to oblong-elliptic, hairy when young, subglabrous with age; fruit (figs) stalked or not, axillary, round, 10–20 mm diameter, hairy; in miombo woodland in higher rainfall areas, often in rocky places. Zimbabwe, E. Zambia, and W. Malawi.

Source. Burrows & Burrows (2003).

Malawi. Nyika National Park, Thazima Gate, 2000, *Burrows & Maroyi 6802* (MAL, UZL); 14 km N. of Thazima Gate, 2000, *Burrows & Maroyi 6832* (MAL).

***Ficus ovata* Vahl**

rough-barked fig, *Timbuka*: mundola

Small to medium evergreen tree, 10–15 m tall, bark roughish, longitudinally fissured, latex milky; leaves ovate, sometimes elliptic, 100–300 × 60–200 mm, more or less glabrous, glossy above, finely hairy below, apex shortly acuminate; fruit (figs) axillary, single or paired, stalked, ovoid to ellipsoid, 25–30 mm, green with creamy spots, minutely hairy; in miombo woodland, often on termite mounds; 1,100–1,750 m. N. Mozambique, Malawi, and Zambia northwards through much of tropical Africa.

Source. Brummitt [as sp. aff. *soldanella*] (1973); Burrows & Burrows (2003).

Malawi. Nyika National Park, Thazima Gate, 2000, *Burrows & Maroyi 6801* (MAL, PRE, UZL); ridge above Mondwe Valley, 1972, *Synge 254* (K, MAL).

***Ficus rokko* Warb. & Schweinf.**

Ficus natalensis sensu Dowsett-Lemaire (1985), non Hochst. (1845);

Ficus thonningii auctt., pro parte, non Blume (1836)

giant forest fig

Large evergreen strangling fig to 30 m tall, bark smoothish, pale to dark

grey, latex milky; leaves elliptic to elliptic-obovate, dark green above, paler below, hairless, base rounded, apex rounded, sometimes acute; fruit (figs) sessile, axillary, round, 10–15 mm diameter, greenish with small warts, reddish when ripe, hairless; canopy tree in montane or mid-altitude forest, or in high-rainfall woodland; 1,400–2,400 m. Zimbabwe northwards to Ethiopia and westwards to Guinea.

Source. Burrows & Burrows (2003).

Malawi. Nyika National Park, Juniper Forest, 2000, *Burrows & Burrows 6926* (Buffelskloof Herbarium).

***Ficus scassellatii* Pamp.**

Ficus kirkii Hutch.

Large strangling fig tree to 35 m tall, bark smoothish, pale to dark grey-brown, latex milky; leaves stiffly leathery, oblong-elliptic, 75–200 × 32–90 mm, upper surface dark glossy green, paler below, hairless throughout, margins entire, finely rolled under; fruit (figs) axillary, stalked, single or paired, roundish, 15–20 mm diameter, crowned with a prominent nipple; a canopy species (strangling) in evergreen forest; 950–1,950 m. Zimbabwe and Mozambique northwards to D.R.C., Kenya, and Somalia. Confined to the forests of the S.W. on the Nyika Plateau.

Source. Burrows & Burrows (2003).

Malawi. S.W. Nyika, Kasyaula Forest (Dowsett-Lemaire 1985: 314, White *et al.* 2001: 389).

Zambia. Nyika Plateau, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 314).

***Ficus sur* Forssk.**

Ficus capensis Thunb.; *Ficus mallowocarpa* Warb.

Cape fig; *Chichewa*: mtundu, nkuyu; *Yao*: mkuju, mpumbumbi

Tree to 12 m (in woodland) or to 25 m (in forest), bark grey, smoothish or flaking, latex milky; leaves oblong-lanceolate to ovate, 55–200 × 20–130 mm, glabrous or with fine hairs below, margins uneven or shallowly toothed; fruit (figs) borne on much-branched leafless trusses arising on the branches or stem, round, 40–40 mm diameter, reddish when ripe; in moist woodland, riverine forest, secondary forest or evergreen forest; 500–2,000 m. Widespread throughout sub-Saharan Africa. The fruit is edible and relished by both humans and birds alike.

Source. Burrows & Burrows (2003).

Zambia. Nyika Plateau, Kasoma Forest (Dowsett-Lemaire 1985: 314).

MYRICACEAE

***Morella salicifolia* (Hochst. ex A.Rich.) Verdc. & Polhill subsp. *kilimandscharica* (Engl.) Verdc. & Polhill var.**

***kilimandscharica* ✧**

Myrica salicifolia Hochst. ex A.Rich.; *Myrica humilis* sensu White *et al.* (2001), non Cham. & Schltdl (1831).

Chichewa: mkano; *Yao*: mkuno

Shrub or small tree to 12 m tall; leaves oblong or oblong-elliptic, 27–100 × 15–42 mm, apex more or less rounded to bluntly pointed, base rounded to broadly cuneate, more or less unequal, variously toothed or subentire, hairy or not, gland dots conspicuous, petiole 5–9 mm long; flowers in small catkins, male and female separate; fruit small, 2–4 mm, roundish; in montane forest, mist-forest, montane grassland, *Brachystegia* woodland, and along drainage lines; 1,100–2,300 m. Zambia (Nyika only), Malawi, Tanzania, and Kenya.

Source. Brummitt (1973); *F.T.E.A.* Myricaceae: 5 (2000).

Malawi. Nyika National Park, W. slopes of Nganda, 2,530 m, 1972, *Brummitt & Synge 61* (K, MAL, SRGH, FHO, EA); Lake Kaulime, 2000, *Burrows & Burrows 6871* (PRE).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 7,000', 1952, *White 2757* (FHO).

***Morella serrata* (Lam.) Killick**

Myrica serrata Lam.

Chichewa: mkano; *Yao*: mkunu

Small tree 1–9 m tall; leaves scented, linear-oblancoate to oblong-elliptic, 70–120 × 10–30 mm, apex acute, base narrowly tapering, margins subentire to coarsely serrate or finely toothed, hairless, but with small yellowish gland dots; flowers in small catkins, male and female separate; fruit small, 3–4 mm, roundish; in forest margins, riverine scrub in montane grassland and in marshy areas in woodland; 1,550–2,150 m. South Africa northwards to Angola, Zambia, and Tanzania.

Source. Brummitt (1973); *F.T.E.A.* Myricaceae: 4 (2000).

Malawi. Nyika National Park, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Synge 138* (K, MAL); Juniper Forest Reserve, 2000, *Burrows & Burrows 6919* (MAL, PRE); *ibid.*, 1982, *Chapman 6318* (FHO); *ibid.*, 1965, *Lawton 1294* (FHO).

MYROTHAMNACEAE

***Myrothamnus flabellifolius* Welw. ✧**

resurrection plant; *Chichewa*: chisoni; *Yao*: chanasa

Ascending or erect, much-branched, rather woody shrub 0.3–0.9 m tall, young branches 4-angled; leaves 10–14 × 6–8 mm, rhombic, apex toothed, base tapering, entire, glabrous; flowers small, terminal; fruit a 2- to 3-lobed

capsule; on exposed rocky outcrops in grassland and woodland, often in large colonies; 500–2,000 m. South Africa to Namibia and Tanzania. Rare on Nyika.

Malawi. Nyika National Park, Jalawe Viewpoint, 2000, *Chapama 206* (MAL); 2000, *Thera 3085* (MAL).

***Embelia schimperi* Vatke ❖**

Embelia kilimandscharica Gilg; *Embelia nyassana* Gilg
Yao: nakonda

Scandent shrub or liane to 6 m, with long trailing branches and short stiff side shoots, lvs 25–100 × 15–60 mm, obovate to roundish, entire, apex rounded to notched, glossy green above, sometimes with black resin-dots; flowers in many-flowered racemes on short side-shoots, white to yellowish; fruit roundish, ± 5 mm diam., red when ripe; on river banks, ravine forest and termitaria in woodland. Widespread in tropical Africa.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Mwenembwe, *White 12978* (White et al. 2001).

***Maesa lanceolata* Forssk. ❖**

Chichewa: chinuni, mangachule, mndenje; *Yao & Tumbuka:* mnkakama
Evergreen shrub or small tree to 10 m tall, leaves alternate, variable, broadly elliptic to lanceolate, glabrous or finely hairy, flowers small, cream, scented, borne in axillary clusters, fruit a small berry 3–4 mm diam, whitish to pinkish; in montane and riverine forest and upland scrub. Widespread in tropical Africa from South Africa to the Arabian Peninsula. The roots are said to be toxic, the ripe fruits are used as an anthelmintic for guinea worm.

Source. Wye College Report (1972).

Malawi. Nyika National Park, NW foot of Nganda, 1972, *Brummitt & Synge*

22 (K, MAL); Mbuzinandi, 2000, *Salubeni & Mwanyambo 6820* (MAL).

***Myrsine africana* L. ❖**

Erect evergreen shrub to 3 m tall, usually less, leaves numerous, small, 6–12 mm long, leathery, dark green, glabrous, margin revolute, sometimes finely serrate; flowers small, borne in leaf axils, fruit a small fleshy purple 1-seeded drupe 2–3 mm diam.; in moist areas in miombo woodland, in montane scrub, forest margins. South Africa to Angola, Zaire/DRC and Ethiopia, also in Asia as far east as China.

Source. Wye College Report (1972), *Flora Zambesiaca* 7(1): 201 (1983).

Malawi. Nyika National Park, near Muzengapakweru, 1972, *Synge 348* (K, MAL); nr. Lake Kaulime, 1962, *Tyrer 789* (BM, COI, SRGH).

***Rapanea melanophloeos* (L.) Mez ❖**

Rapanea rhododendroides (Gilg) Mez

Evergreen tree 3–20 m tall, leaves often clustered at branch ends, leathery, dark green above, 40–90 mm × 10–35 mm, elliptic to oblanceolate, entire, base narrowly tapering, apex rounded to acute, petioles reddish; flowers small, in leaf axils or on old wood below leaves; fruit a small round purple drupe, 3–5 mm diam.; in evergreen montane forest. Widespread in tropical Africa.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

MYRTACEAE

***Eugenia capensis* (Eckl. & Zeyh.) Sond. subsp. *gracilipes* (Engl.) F.White**

Shrub or small tree 2.5–12 m tall; leaves opposite, ovate, apex drawn out into a long point; flowers with the style-head capitate; fruit round, ca 15 mm diameter, purple-black when ripe; in evergreen forest; 395–1,600 m. Known only from Zimbabwe, Mozambique, and Malawi.

Source. *Flora zambesiaca* 4: 190 (1978).

Malawi. Nyika Plateau, Luselo Forest, *Salubeni 354* (K).

***Eugenia capensis* (Eckl. & Zeyh.) Sond. subsp. *nyassensis* (Engl.) F.White**

Shrub or small tree 2.5–12 m tall; leaves opposite, elliptic, apex bluntly subacuminate; flowers with the style-head 2-fid; in montane, submontane, fringing, and dry evergreen forest; 1,050–2,150 m. Zimbabwe and Mozambique to D.R.C. and Tanzania.

Source. *Flora zambesiaca* 4: 188 (1978).

Zambia. Nyika Plateau, 1.5 km S.W. of Rest House, 1958, *Robson 616* (BM, K, LISC, SRGH).

***Eugenia malangensis* (O.Hoffm.) Niedenzu ❖**

Rhizomatous geoxylic suffrutex, stems 150–500 mm long, usually unbranched; leaves opposite or in whorls of 3 or 4, narrowly elliptic to linear; fruit roundish, ca 15 mm diameter, purple-black when ripe; in grassland and secondary grassland, sometimes on the edges of marshes/dambos; 1,000–2,150 m. Zimbabwe to Angola and Tanzania.

Source. *Flora zambesiaca* 4: 190 (1978).

Zambia. Nyika Plateau, 9 km S.W. of Rest House, 1958, *Robson 342* (BM, K, LISC, SRGH).

***Syzygium cordatum* Hochst. ex Krauss ❖**

waterberry; *Chichewa:* nyowe; *Tonga:* katope, mchisu, nsinika

Evergreen tree with rounded crown, bark dark brown to blackish, rough; leaves opposite, the base often clasping the twigs, apex rounded to acute; flowers fluffy, creamy white; fruit urn-shaped to ellipsoid, ca 18 × 9 mm, shiny

purple-black when ripe, edible; a tree characteristic of riverine fringes, seepage zones in woodland, and forested gullies. From South Africa to Angola, D.R.C., and Uganda. The whitish wood is borer-proof and is used to make doors.

Source. Brummitt (1973).

Malawi. Nyika National Park, Sawi Valley, 1,465 m, 1972, *Synge 425* (K, MAL, FHO).

Zambia. Nyika Plateau, Chowo Forest, without collecting details (Dowsett-Lemaire 1985).

Syzygium guineense* (Willd.) DC. subsp. *guineense

Evergreen tree 2–10 m tall, bark pale grey, smoothish, becoming dark brown and roughish with age, twigs more or less round in section; leaves 70–140 × 35–85 mm, leathery, glabrous, apex rounded to subacute to shortly cuspidate; flowers cream, fluffy; fruit roundish, 13–22 mm diameter, purplish when ripe, edible; in mixed and miombo woodland, often on rocky hills and near seepage zones; to 1,750 m. South Africa to Angola, D.R.C., and Tanzania. Bark is used to produce a black dye and the pale red timber is very durable and is used to make doors and door-frames.

Malawi. Nyika National Park, Thazima Gate, 2000, *Burrows & Burrows 6953* (PRE).

***Syzygium guineense* (Willd.) DC. subsp. *afromontanum* F.White**

Chichewa: mbunguzi, mpeuma; *Tumbuka:* muyenjere

Evergreen tree to 20 m tall, bark pale brown, rough, twigs usually square in section or winged; leaves 55–130 × 20–40 mm, leathery, apex drawn out to a slender point; fruit roundish to ellipsoid, 13–18 mm diameter, purplish black when ripe, edible; in montane forest, high-rainfall miombo woodland, forested gullies, and on rocky hills in high-rainfall areas; 900–2,150 m. From Sudan to Zimbabwe.

Malawi. Nyika National Park, about 20 miles on Nyika Plateau, 1953, *Chapman 102* (FHO); without locality or collecting details (Mill 1979).

Zambia. Nyika Plateau, Manyenjere, Kasoma and Chowo Forests, without collecting details (Dowsett-Lemaire 1985); Kaperekezi Road, 2000, *Phiri 3854* (UZL).

NYCTAGINACEAE

****Mirabilis jalapa* L. ❖**

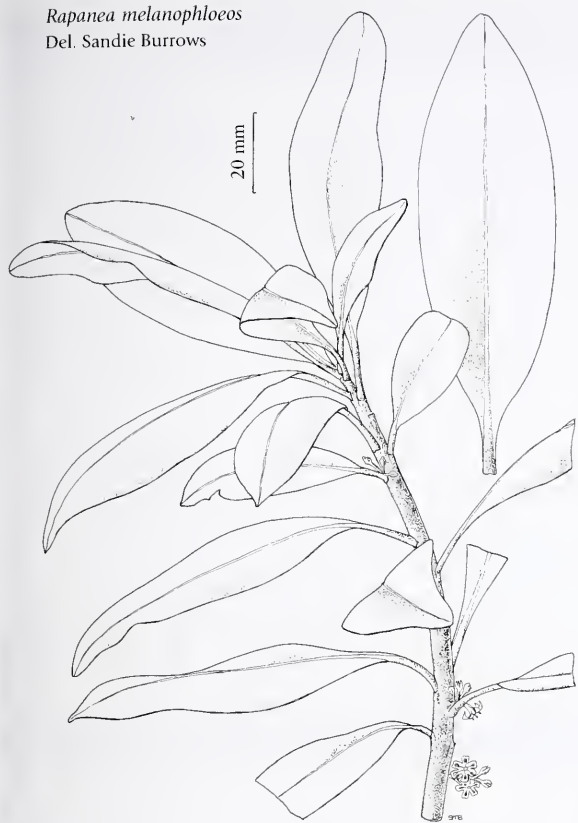
Perennial herb to 1.5 m tall; leaves opposite, ovate, 35–130 mm long, glabrous or nearly so, base cordate to truncate; flowers showy, bell-shaped, purple, red, white or yellow. Introduced from tropical America, now widely

cultivated and naturalised in all tropical regions.

Source. *Flora zambesiaca* 9(1): 13 (1988).

Malawi. Nyika Plateau, 1903, *McClounie 123* (K).

Rapanea melanophloeos
Del. Sandie Burrows



Eugenia malangensis
Del. Julia Loken



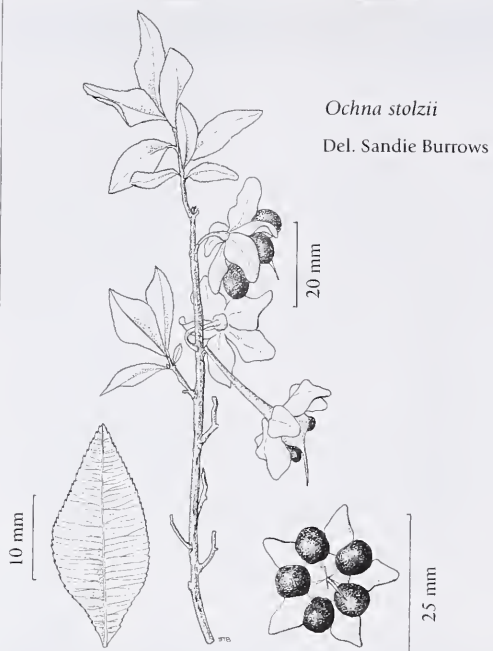
20 mm

Syzygium cordatum
Del. Sandie Burrows



Mirabilis jalapa
Del. Sandie Burrows





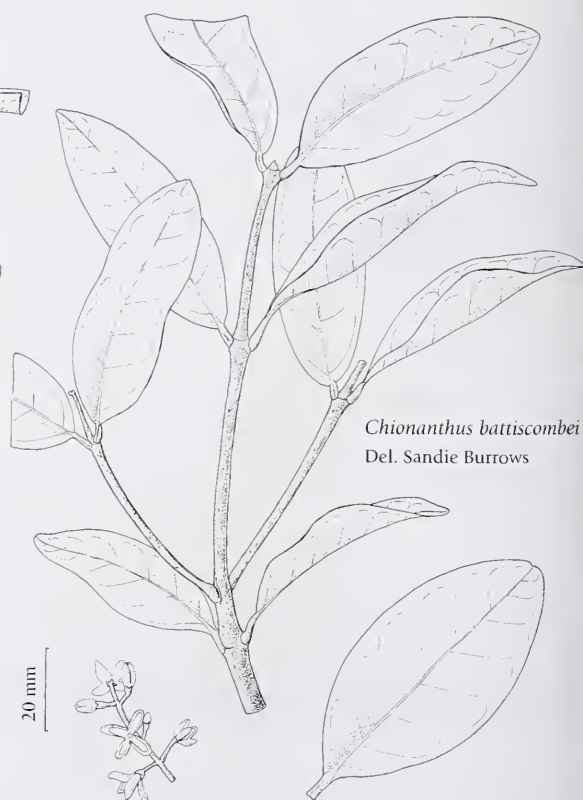
Ochna stolzii
Del. Sandie Burrows



Strombosia scheffleri
Del. Sandie Burrows



Ximenia caffra
Del. Sandie Burrows



Chionanthus battiscombei
Del. Sandie Burrows

Ochna holstii Engl.

Chichewa: mgonelo

Tree 8–20 m tall, briefly deciduous, twigs and leaves held in a horizontal plane; leaves elliptic to oblanceolate or oblong, 50–122 x 15–39 mm, margin sharply serrate; flowers 7–14 in an elongated raceme, petals pale to bright yellow, (8)10–12 mm long; in montane forest or on rocky outcrops in montane grassland; 1,600–2,300 m. South Africa through eastern Africa to Ethiopia and Sudan.

Source. *Flora zambesiaca* 2(1): 240 (1963).

Malawi. Nyika National Park, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 316).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White* 2793 (FHO, K); Chowo Rocks, *Dowsett-Lemaire* 561a (White et al. 2001: 416).

Ochna katangensis De Wild.

Suffrutex from a woody rootstock, with numerous branches to 150 mm tall, forming low cushions; leaves narrowly elliptic to linear-oblong, 42–110 x 9–22 mm, tinged bluish green, margins sharply serrate; flowers large, single or 2–5 in an umbel, petals bright yellow to orange, 12–13(20) mm long; in grassland and open woodland subjected to fires; 1,500–2,150 m. Malawi, Zambia, Angola, D.R.C., and S. Tanzania.

Source. *Flora zambesiaca* 2(1): 247 (1963).

Malawi. Nyika National Park, path from Rest House to waterfall (Chisanga Falls), 1,850 m, 1958, *Robson* 473 (BM, K, LISC, PRE, SRGH).

Ochna schweinfurthiana F.Hoffm.

Shrub or small tree 2–7 m tall, bark dark grey, reticulately fissured; leaves obovate to oblanceolate or oblong, 55–135 x 17–55 mm, tertiary venation prominent above; flowers 4–10 in a condensed raceme, petals bright yellow, 5.5–10 mm long; in deciduous woodland on sandy soils; 750–1,675 m. Widespread in tropical Africa from Zimbabwe northwards. The accuracy of this record is perhaps questionable; we have no concrete records from the plateau and the record may come from the foothills of the Nyika (for example, Kaziweziwe River, Livingstonia, in *Flora zambesiaca* 2(1): 248, 1963).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Ochna stolzii Gilg ex Engl. ❖

Ochna oxyphylla Robson

Deciduous shrub or bushy small tree 1–3 m tall, with rigidly horizontal branches (very like those of *O. holstii*); leaves elliptic to obovate, 12–35 x 6–18 mm, margins serrulate; flowers in fascicles of up to 3, petals yellow, 9–10 mm long; on rocky outcrops and forest margins; 1,750–2,400 m. Malawi and Tanzania. Doubtfully distinct from *O. holstii*.

Malawi. Nyika National Park, Chelinda Bridge, 2000, *Willis* 38 (PRE); 2000, *Salubeni & Mwanyambo* 6774 (MAL); 2000, *Izidine* 53 (LMA).

Zambia. Nyika National Park, near Chowo (Dowsett-Lemaire 1985: 335); Chowo Rocks, *White* 2806 (White et al. 2001: 416).

OLACACEAE

Strombosia scheffleri Engl. ❖

Tumbuka: mvivi

Large canopy tree to 30 m, bark smoothish, flaking in patches; leaves simple, alternate, oblong-ovate, leathery, glabrous, more or less glossy above; flowers small, in dense axillary clusters; fruit ca 25 mm long, with a depression at the tip, style persistent; in evergreen forest; 700–1,900 m. Zimbabwe to Nigeria and Kenya. Rare, not recorded by Dowsett-Lemaire (1985).

Source. *Flora zambesiaca* 2(1): 334 (1963).

Malawi. Nyika Plateau, Mwenembwe, without collecting details (White et al. 2001).

Ximenia caffra Sond. ❖

sour plum; *Chichewa:* mpinji

Shrub or small tree to 6 m, branches with straight spines; leaves alternate, sometimes clustered on short side-branches, elliptic, hairy (var. *caffra*) or hairless (var. *natalensis*); flowers whitish, densely hairy within; fruit an ellipsoid drupe, fleshy, bright red, edible; in various types of woodland or wooded grassland. South Africa to Angola, D.R.C., and Tanzania. The variety of the Nyika collection is unknown.

Source. *Flora zambesiaca* 2(1): 331 (1963).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

OLEACEAE

Chionanthus battiscombei (Hutch.) Stearn ❖

Limociera battiscombei Hutch.

Chichewa: kapanda, mukowe

Evergreen shrub or tree to 15 m tall, branchlets pale grey with prominent lenticels; leaves opposite, elliptic, leathery, glossy dark green above, paler below with hairy domatia (pits) in the vein axils below; flowers in tight axillary clusters, white, fragrant; fruit an ellipsoid drupe, ca 15 mm long, blackish when ripe; in riverine forest and drier types of evergreen forest; 900–2,200 m. South Africa (Limpopo Province) northwards to Angola and Kenya.

Source. *Flora zambesiaca* 7(1): 108 (1983).

Malawi. S.W. Nyika and Juniperus forest (White et al. 2001).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 2,130 m, 1952, *White* 2797 (FHO).

Chionanthus sp. 1.

‘Possibly *C. africanus* (Knobl.) Stearn, but the specimen is sterile’ (White et al. 2001).

Malawi. Nyika National Park, Chisanga Falls, 800 m, *Dowsett-Lemaire* 330 (White et al. 2001).

Jasminum abyssinicum Hochst. ex DC. ❖

Evergreen climber to 20 m high; leaves opposite, 3-foliolate, leaflets ovate with a drawn-out tip, glossy green, hairless, with sparsely-haired domatia

(pits) in the vein axils below; flowers axillary, white, fragrant; inside or on edges of montane forest; 1,800–2,200 m. Widespread in eastern Africa from South Africa (KwaZulu-Natal) to Ethiopia.

Malawi. Nyika National Park, Zovochipolo Forest, *Dowsett-Lemaire* 178 (Dowsett-Lemaire 1985, White et al. 2001).

Jasminum odoratissimum L. subsp. *goetzeanum* (Gilg) Green

Jasminum goetzeanum Gilg

Strong woody climber in forest, or shrub on forest margins; leaves alternate, 3-foliolate, leaflets elliptic to ovate, apex acute, glabrous, domatia (pits) absent; flowers terminal or axillary, yellow, fragrant; common on the Nyika in evergreen forest; 2,150–2,450 m. Malawi, Tanzania, N.E. Zambia, D.R.C., and Kenya.

Source. Brummitt (1973); *Flora zambesiaca* 7(1): 310 (1983).

Malawi. Nyika National Park, forest 3 km E. of Nganda, 1972, *Brummitt & Synge* 94 (K); Chiwilamera Evergreen Forest patch, Kasaramba Road, 1965, *Banda* 798 (K, MAL, SRGH).

Jasminum pauciflorum Benth.

Liane climbing to 6 m high; leaves opposite, simple (unifoliolate), oblong-ovate, hairy or not, hairy domatia (pits) present in the vein axils below; flowers terminal or axillary, white (pink on outside), sweetly scented; in riverine or swamp (mushitu) forest, and at edge of *Newtonia buchananii*

mid-altitude forest. Zambia and Malawi northwards to W. Africa and Kenya.
Malawi. Nyika National Park, Chisanga Falls, 1,750 m, *Dowsett-Lemaire* 309 (White et al. 2001).

Olea welwitschii (Knobl.) Gilg & Schellenb. ✧

Olea capensis L. subsp. *welwitschii* (Knobl.) Friis & Green

Large evergreen tree to 30 m or more, bole buttressed in old specimens; leaves opposite, elliptic to narrowly elliptic, leathery, margins usually wavy, apex sharp-tipped, dark glossy green above; flowers in terminal and axillary clusters, white; fruit ellipsoid, to 17 mm long, purplish when ripe; a canopy or emergent tree of evergreen montane forests; 1,150–2,250 m. Zimbabwe northwards to Ethiopia and Cameroon. The timber is hard, durable, and valued for furniture making and building construction.

Source. Green (2002: 110).

Malawi. Nyika Plateau, 1965, *Cottrell* 52 (K, SRGH); Juniperus Forest, *Chapman* 1971 (White et al. 2001).

Zambia. Nyika National Park, Manyenere, Kasoma and Chowo Forests, without collecting details (Dowsett-Lemaire 1985); Chowo Forest, 1,930 m, 1967, *Richards* 22699 (K).

Olea europaea L. subsp. *africana* (Mill.) Green

Olea africana Mill.; *Olea europaea* subsp. *cuspidata* (Wall. ex G. Don)

Cif.; *Olea europaea* sensu White et al. (2001)

Chichewa: nakatimba

Much-branched evergreen tree to 12 m tall; leaves opposite, lanceolate to narrowly elliptic, leathery, tip sharply pointed, upper surface shiny green, lower surface paler with numerous minute circular scales; flowers small, white, sweetly-scented; fruit a small drupe 5–10 mm long, black, fleshy when ripe; in riverine forest and in mixed woodland, on the Nyika in or on the edges of forest; 1,400–2,450 m. Widespread in southern and eastern Africa from the Cape to Ethiopia and Yemen.

Source. Green (2002: 95).

Malawi. Nyika National Park, Juniper Forest, *White* 2587 (White et al. 2001); Kasyaula and Zovochoipolo Forests, without collecting details (Dowsett-Lemaire 1985).

Zambia. Nyika National Park, Kasoma and Chowo Forests, without collecting details (Dowsett-Lemaire 1985).

Schrebera alata (Hochst.) Welw. ✧

Schrebera argyrotricha Gilg; *Schrebera mazoensis* S. Moore

Briefly deciduous tree 4–15 m tall; leaves opposite, imparipinnate, petiole and rachis usually winged, hairless or not; flowers in terminal clusters, white to pink, with a brownish centre, sweetly scented; fruit a woody 2-valved capsule; in riverine forest, on montane forest margins, rocky outcrops, and termite mounds in miombo woodland; 1,000–2,220 m. Widespread in eastern Africa from South Africa to Angola and Ethiopia.

Malawi. Nyika National Park, Jalawe Viewpoint, 2000, *Thera* 3079 (MAL); without locality or collecting details (Mill 1979).

OLINIACEAE

Olinia rochetiana Juss. ✧

Tumbuka: luvinti

Small or large tree to 16 m tall, bark smoothish, mottled, flaking, twigs square; leaves opposite, subglossy above and the venation visible and impressed above; flowers small, pink; fruit a small pink to red berry; on margins of evergreen forest, near streams in gallery forest, and on rocky out-

crops; 990–1,560 m. South Africa, Malawi, Zambia, D.R.C., to Ethiopia.

Source. *Flora zambesiaca* 4: 325 (1978).

Malawi. Nyika Plateau, 24 km on Nyika road, 1956, *Chapman* 289 (FHO, K).

Zambia. Nyika Plateau, 1.6 km S.W. of Rest House, 1958, *Robson & Fanshawe* 619 (BM, K, LISC, PRE, SRGH).

ONAGRACEAE

Epilobium capense Buchinger ex Hochst. ✧

Erect perennial herb 0.2–1.6 m, stems covered in appressed hairs; leaves petiolate, narrowly ovate to narrowly lanceolate, base usually rounded to obtuse; flowers rose purple to cream or white, stigma deeply 4-cleft; in moist montane grassland; 900–2,100 m. South Africa, E. Zimbabwe, Malawi, Zambia (Nyika) and S.W. Tanzania; also in Madagascar.

Source. *Flora zambesiaca* 4: 343 (1978).

Malawi. Nyika National Park, Dembo River Bridge, 2000, *Willis* 28 (MAL, PRE); Chelinda between Dam 2 and 3, 7,500', 1974, *Pawek* 7848 (K, MAL, MO, SRGH, UC).

Zambia. Nyika Plateau, 2.5 miles S.W. of Rest House, 1958, *Robson & Angus* 245 (K); without locality, 1955, *Lees* 102 (K).

No country given. 1967, *Richards* 22495 (UZL).

Epilobium hirsutum L.

Robust herb 0.2–2.5 m tall, stems covered in spreading hairs; leaves subsessile, distinctly clasping at the base, distinctly hairy; flowers bright purplish rose, stigma deeply 4-cleft; in swamps and marshes along streams, around lakes, and in dambos; 0–2,600 m. South Africa, eastern Africa, N. Africa, the Canaries, and Cape Verde islands.

Source. *Flora zambesiaca* 4: 343 (1978).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Epilobium salignum Hausskn.

Epilobium neriophyllum Hausskn.

Perennial herb 0.2–1.6 m tall, petiole 1–8 mm; leaves very narrowly elliptic

to more or less lanceolate, base tapering; flowers white or cream, turning pink after pollination, stigma entire, not cleft; in moist or seasonally wet areas in montane grassland; 500–3,000 m. South Africa to Angola, Cameroon, Uganda, and Ethiopia; also in Madagascar.

Source. *Flora zambesiaca* 4: 345 (1978).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Mpopoti, 2000, *Thera* 3043 (MAL); Jalawe Viewpoint, 2000, *Chapama* 207 (MAL).

Zambia. Nyika Plateau, without precise locality, 2,100 m, 1959, *Richards* 10416 (K).

Ludwigia stenorrhapha (Brenan) Hara subsp. *macrosepala* (Brenan) Raven

Robust branching herb, or shrub 1–3 m tall, covered with spreading hairs; leaves narrowly linear to oblanceolate; flowers yellow; in swamps and wet places; 600–2,500 m. Malawi, Zambia, Tanzania, and Uganda.

Source. *Flora zambesiaca* 4: 335 (1978).

Malawi. Nyika Plateau, Mwanemba (Mwenembwe), 1903, *McClounie* 127 (K).

Ludwigia stolonifera (Guill. & Perr.) Raven ✧

Herb with prostrate or ascending stems, floating stems with many white erect pneumatophores; leaves dark green, shiny, narrowly lanceolate to narrowly elliptic; on lake or river banks, in water; up to 1,900 m. Throughout most of Africa. This locality on the Nyika Plateau is very doubtful (see also biographical notes on McClounie).

Source. *Flora zambesiaca* 4: 341 (1978).

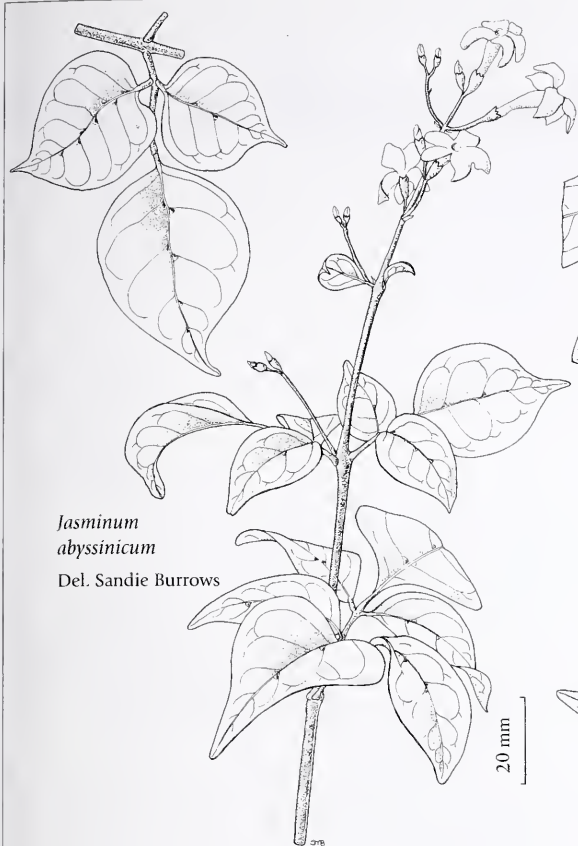
Malawi. Nyika Plateau, Mwanemba (Mwenembwe), 1903, *McClounie* 129 (K).

OROBANCHACEAE

Orobanche minor Smith ✧

Erect parasitic herb 250–400 mm tall, stem simple, unbranched, lacking chlorophyll, yellowish, entire plant glandular-hairy; scales ovate to ovate-

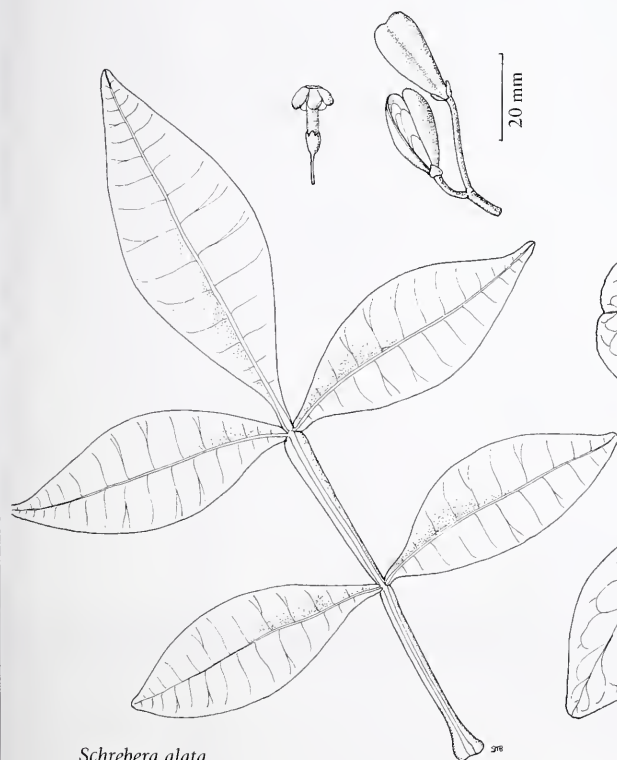
lanceolate, acute to obtuse, 5–17 × 2–4.5 mm; flowers tubular, 10–18 mm long, usually curved, lobes curving outwards, dull-yellowish to violet-blue with darker purplish blue veins; a parasitic weed on the roots of a wide



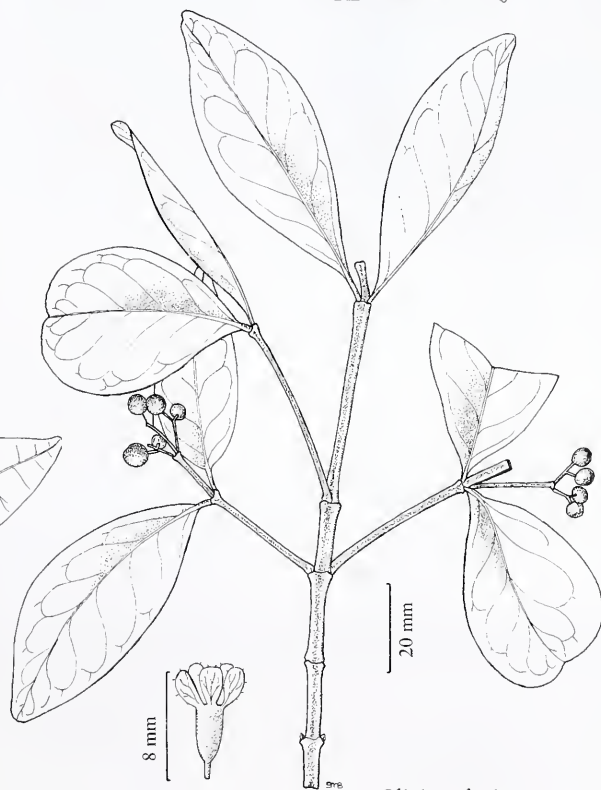
Jasminum
abyssinicum
Del. Sandie Burrows



Olea welwitschii
Del. Sandie Burrows

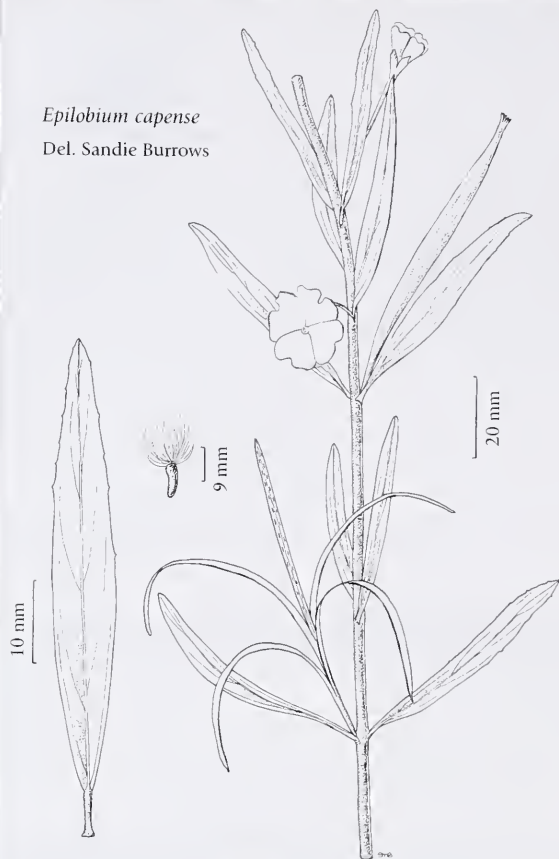


Schrebera alata
Del. Sandie Burrows

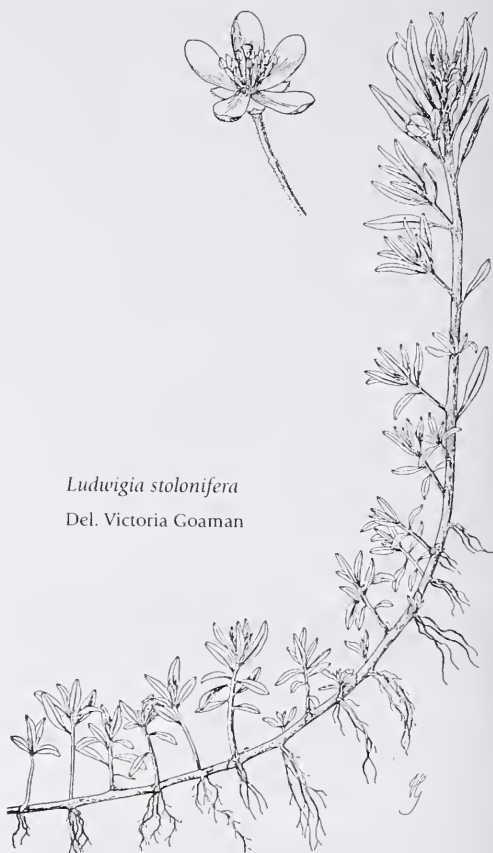


Olinia rochetiana
Del. Sandie Burrows

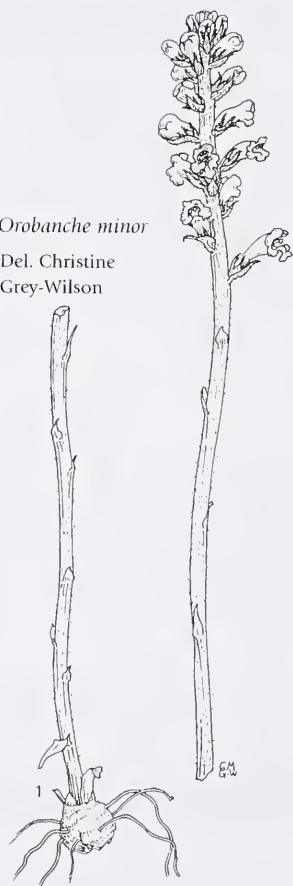
Epilobium capense
Del. Sandie Burrows



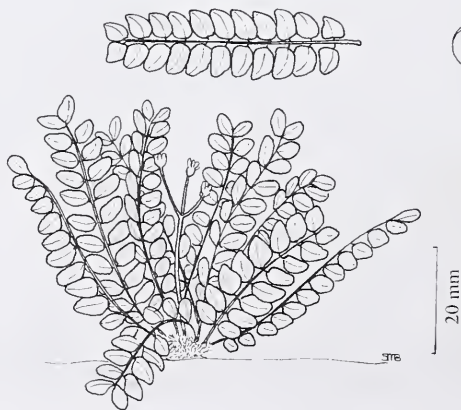
Ludwigia stolonifera
Del. Victoria Goaman



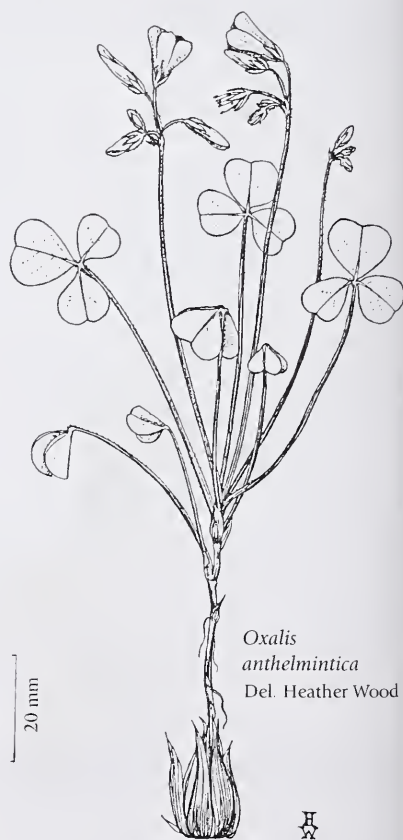
Orobanche minor
Del. Christine Grey-Wilson



Biophytum nyikense
Del. Sandie Burrows



Oxalis anthelmintica
Del. Heather Wood



variety of different plants, in woodland, grassland, and on forest margins; up to 3,000 m. Found throughout the northern hemisphere.

Source. *Flora zambesiaca* 8(2): 161 (1990).

OXALIDACEAE

***Biophytum crassipes* Engl.**

Stemless perennial herb with woody taproot, branching at ground-level, with 1–4 rosettes of leaves; leaves 20–130 mm long, pinnate with 4–17 pairs of leaflets, leaflets roundish to obliquely obovate or reniform, terminal leaflets the largest; flowers orange, yellow or reddish, petals 6–9 mm long; in grassland, scrub, and swamps; 1,200–1,600 m. Mozambique, Malawi, Zambia, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 2(1): 159 (1963).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Biophytum helenae* Buscal. & Muschl.**

Biophytum sensitivum auctr. afr. non (L.) DC.

Annual herb, stem simple, rarely shortly branched; leaves in 1–5 rosettes, pinnate, with 5–21 pairs of leaflets, sensitive to the touch, obliquely rectangular to obliquely obovate, decreasing in size towards the base of the leaf, hairy or not; flowers in umbels of 3–10, white, yellow or pinkish purple, petals spatulate; riversides, clearings in forest, less commonly in woodland. Mozambique to Zambia, Angola, and northwards to D.R.C. and Uganda.

Source. *Flora zambesiaca* 2(1): 158 (1963); *F.T.E.A. Oxalidaceae*: 14 (1971).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Biophytum nyikense* Exell ✧**

Stemless perennial herb to 200 mm high; leaves in 1–3 rosettes, pinnate, with 4–10 pairs of leaflets, leaflets largest in the middle of the leaf, obliquely subcircular, 2–8 mm; flowers 3–8 in an umbel, peduncles short, 10–35 mm long, petals yellow, spatulate, 7–8 mm long; in upland grassland (and miombo woodland in Tanzania); 1,500–2,450 m. Nyika Plateau and southern Tanzania.

Source. *Flora zambesiaca* 2(1): 161 (1963); *F.T.E.A. Oxalidaceae*: 17 (1971).

Malawi. Nyika Mountains, 1932, *Sanderson* 70 (BM).

Zambia. Nyika Plateau, without locality, *Benson* NR 145 (BM, holo.); 3.2 km S.W. of Rest House, 1958, *Robson* 207 (BM, K, LISC, SRGH).

***Oxalis anthelmintica* A.Rich. ✧**

Perennial herb with a vertical rhizome bearing bulbs, stemless or with a stem; leaves in a rosette, leaflets roundish, to 22 mm broad, emarginate, hairless, petiole to 130 mm long; flowers in an umbel on a stalk up to 200 mm long, petals pink, purple or bluish, to 14 mm long; in open woodland and bush. Zimbabwe to D.R.C. and Ethiopia. *Willis* 200 (PRE) from Mwanda Mountain and determined as *O. latifolia* Kunth, probably belongs here; Mwanda Mountain is too remote to have attracted an alien weed species not previously recorded from Malawi.

Source. *Flora zambesiaca* 2(1): 150 (1963); Mill (1979).

Malawi. Nyika Plateau, without locality, 1903, *Henderson* s.n. (BM); Chelinda Bridge rock, 7,500', 1977, *Pawek* 12245 (K, MO).

***Oxalis chapmaniae* Exell ●**

Perennial herb with a vertical rhizome bearing a bulb, stemless; leaves 3–5 in a basal rosette, leaflets linear to very narrowly elliptic, 40–80 mm long, more or less hairless; flowers in an umbel on a stalk 70–240 mm long,

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Makhanga, 2000, *Salubeni & Mwanyambo* 6754 (MAL).

petals purple, magenta-pink or carmine, 9–13 x 2.5–3 mm; in montane grassland, often among rocks; 2,130–2,440 m. Endemic to the Nyika Plateau, but common and widespread on the Nyika.

Source. *Flora zambesiaca* 2(1): 152 (1963).

Malawi. Nyika National Park, Nganda Hill, 2000, *Phiri* 3686 (UZL); 2000, *Kasakula* 243 (MAL); Sangule Peak, 2000, *Izidine* 81 (LMA); Chelinda Bridge, 7,500', 1974, *Pawek* 12245 (K, MO, SRGH, UC); Lake Kaulime, 2,340 m, 1970, *Brummitt* 10785 (K).

Zambia. Nyika National Park, W. of Chowo Forest, 2000, *Phiri* 3915 (UZL); near Govt Rest House, 7,000', 1964, *Benson* 395 (K).

****Oxalis corniculata* L.**

Much-branched annual herb, creeping and rooting at nodes, bulbs absent; leaves scattered along stems, leaflets 3–15 x 5–20 mm, obcordate-cuneate, minutely hairy on both sides; flowers 1–6 in an umbel, yellow, petals up to 10 mm long; a cosmopolitan weed, probably originally from Europe.

Source. *Flora zambesiaca* 2(1): 150 (1963).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Oxalis obliquifolia* Steud. ex A.Rich.**

Stemless perennial herb with a vertical rhizome bearing a bulb; leaflets very broadly ovate to circular, apex rounded to shallowly emarginate, with or without a few sparse hairs; flowers up to 25 mm diameter, solitary, peduncle to 90 mm long, petals pink or mauve, 10–23 mm long; in grassland and miombo woodland; 1,000 m upwards. South Africa to Angola, D.R.C., and Ethiopia.

Source. *Flora zambesiaca* 2(1): 155 (1963).

Malawi. Nyika National Park, Fingira Rock, 2000, *Willis & Luhanga* 252 (MAL, PRE, UZL); Sangule Peak, 2000, *Izidine* 82 (LMA).

***Oxalis semiloba* Sond.**

Perennial herb with a vertical rhizome bearing a bulb; leaflets very variable, 2-lobed, emarginate, to 2-partite, hairy or not; flowers 20–30 mm diameter, in 4- to many-flowered umbels on a long stalk 40–200 mm long, petals pink or purplish to blue, to 15 mm long; in woodland or grassland. South Africa Angola, D.R.C., and Ethiopia. Two subspecies are recognized (*O. semiloba* subsp. *semiloba* and *O. semiloba* subsp. *ubebensis* (Engl.) Exell); both could occur on the Nyika, but none of the two collections has been identified to subspecies level.

Source. *Flora zambesiaca* 2(1): 153 (1963).

Malawi. Nyika National Park, Mpopoti, 2000, *Willis & Luhanga* 63 (PRE); without locality or collecting details (Mill 1979).

***Oxalis trichophylla* Baker**

Perennial herb with a vertical rhizome; leaves 3-foliate, 2–10 from the base, leaflets broadly obovate-elliptic to roundish, to 20 x 20 mm, apex truncate to rounded, finely hairy; flowers in 2- to 5-flowered umbel on a stalk to 150 mm long, petals mauve or pink, 10–12 x 3 mm; in grassland or miombo woodland. Zambia and N. Malawi. This is the only known collection from Malawi.

Source. *Flora zambesiaca* 3(1): 146 (1970).

Malawi. Nyika Plateau, without precise locality, 1962, *Fanshawe* 7345 (K).

PASSIFLORACEAE

***Adenia rumicifolia* Engl. & Harms ✧**

Adenia lobata auctr., non (Jacq.) Engl.

Woody climber to 20 m high, tendrils simple or 3-fid; leaves simple, circular to ovate or ovate-oblong, 35–150 x 25–100 mm, apex cuspidate, base cordate to hastate to truncate, very dark green above, paler below, petiole 15–100 mm long; flowers axillary, broadly tubular-campanulate, pale yellow, 15–35 mm long; fruit a pear-shaped capsule, 30–60 mm long; in riverine

forest, forest margins; 600–1,700 m. Mozambique, Malawi, Zambia, and Angola, northwards throughout much of tropical Africa.

Source. *Flora zambesiaca* 4: 393 (1978); White *et al.* (2001: 429).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Adenia stoltzii* Harms**

Semi-woody climber 20–30 m high, branches with simple tendrils; leaves

simple, circular to ovate, 40–120 x 35–100 mm, apex obtuse to acute, base cordate, margins entire to shallowly lobed, brownish green above, glaucous below, glabrous, petiole 15–110 mm long; flowers axillary, 1–several in a cluster, bell-shaped, 10–13 mm long; fruit a ovoid-ellipsoid capsule, 40 x 20–25 mm, smooth; in montane forest; 1,700–2,400 m. Malawi, Zambia, Tanzania, and Kenya.

Source. *Flora zambesiaca* 4: 391 (1978); White *et al.* (2001: 429).

Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 219).

Zambia. Nyika, at entrance to Chowo Forest, 1971, Pawek 4986 (K).

PHYTOLACCACEAE

Phytolacca dodecandra L'Hér. ✧

Phytolacca abyssinica Hoffmann

Scrambling herb or soft shrub to 13 m tall; leaves ovate to elliptic, 30–140 x 15–95 mm; flowers in terminal or leaf-opposed racemes, creamish; fruit numerous, 4- to 5-lobed, fleshy, orange or red when ripe; in a broad range

of habitats; 600–2,800 m. Widespread in tropical and southern Africa and Madagascar.

Source. *Flora zambesiaca* 9(1): 164 (1988).

Malawi. Nyika Plateau, Kafwimba rainforest, 1,900 m, 1975, Pawek 10058 (K, PRE).

PIPERACEAE

Peperomia abyssinica Miq. var. *abyssinica* ✧

Perennial succulent hairless herb, stems creeping, stoloniferous basally; leaves alternate, 22–47 mm long, rhomboid to elliptic, gland-dotted on both surfaces, 3- to 5-nerved from the base, midrib raised below; flowers and fruit in a spike, rachis 20–40 mm long; on mossy rocks or trees in forest, rocky outcrops or high-rainfall miombo woodland; 1,550–2,850 m. Malawi to Ethiopia.

Source. *Flora zambesiaca* 9(2): 36 (1997).

Malawi. Nyika National Park, Mpopoti, 2000, Willis & Luhanga 59 (MAL, PRE); Nyika Plateau, Chosi Forest, 1975, Phillips 729 (K).

Peperomia goetzeana Engl.

Perennial succulent sparsely-branched herb, stems rooting at nodes; leaves alternate, rarely opposite, 30–50 mm long, spatulate to obovate-oblong, bright green above, pale green below, 3- to 5-nerved, midrib raised below; flowers and fruit in a spike, rachis 40–65 mm long; on mossy rocks and trees in moist evergreen forest; 750–3,000 m. Malawi and Mozambique to Ethiopia.

Source. *Flora zambesiaca* 9(2): 35 (1997).

Malawi. Nyika National Park, Kasaramba Peak, 1968, Simon, Williamson & Ball 1727 (K, LISC, SRGH); Mpopoti Peak, 2000, Mvanyambo 555 (MAL).

Peperomia retusa (L.f.) A.Dietr. var. *bachmannii* (C.DC.)

Düll

Perennial succulent, creeping or erect herb with stems rooting at nodes; leaves alternate, rarely opposite, small, up to 10–15 mm long, obovate to elliptic, apex rounded, sometimes notched, venation obscure, hairless; flowers and fruit in a long spike, rachis 5–15 mm long; epiphytic or lithophytic in moist evergreen forest; 1,000–2,750 m. South Africa to Kenya.

Source. *Flora zambesiaca* 9(2): 34 (1997).

Malawi. Nyika National Park, N. of Lake Kaulime, 2000, Willis & Luhanga 110 (PRE).

Peperomia retusa (L.f.) A.Dietr. var. *mannii* (Hook.f.) Düll

As for *P. retusa* var. *bachmannii*, but the leaves larger, reaching 30 mm in length, and the rachis of the spike 20–50 mm long; habitat the same. Zimbabwe and Mozambique northwards throughout most of tropical Africa.

Source. Brummitt (1973); *Flora zambesiaca* 9(2): 34 (1997).

Malawi. Nyika Plateau, without precise locality, 1946, Brass 17239 (K, SRGH); E. foot of Nganda, 1972, Brummitt, Munthali & Synge 87 (K, MAL).

Peperomia tetraphylla (G.Forst.) Hook. & Arn.

Peperomia reflexa (L.f.) A.Dietr.

Perennial herbs with tufted creeping, stems 4-angled; leaves in whorls of 4, 6–15 mm long, elliptic to rhomboid or almost round, with a few hairs below, 3-nerved from the base; flowers and fruit in an erect spike, rachis 12–30 mm long; epiphytic on trees in mist forest, moist woodlands, and riverine forest; 900–2,200 m. Widespread in Africa and throughout the tropics.

Source. *Flora zambesiaca* 9(2): 29 (1997).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Zambia. Nyika, 1966, Fanshawe 9771 (K, SRGH).

Piper capense L.f. var. *capense* ✧

Soft evergreen shrub to 3 m tall, stems soft, green, often trailing; leaves ovate, glossy, deep green, upper surface quilted, lower surface more or less glabrous, leaves and fruit strongly spicy-aromatic, with a peppery taste if chewed; flowers and fruit in whitish spike; in very deep shade of evergreen forest along streams and seepage zones; 650–2,250 m. Widespread in Africa. The spicy seeds may be used as a substitute for pepper.

Source. *Flora zambesiaca* 9(2): 27 (1997).

Malawi. Nyika National Park, Nyamkowa, 1978, Pawek 13864 (K, MA, MO).

Zambia. Nyika Plateau, 8.8 km S.W. of Rest House, 2,150 m, 1958, Robson 348 (K, SRGH).

Piper capense L.f. var. *brachyrachis* (C.H.Wright) Verdc.

As for *P. capense* var. *capense*, but the undersurface of the leaves, the petioles, and new shoots more or less densely hairy; in evergreen forest, swamp forest, and high-rainfall miombo woodland. Zambia, Malawi, and S.W. Tanzania.

Source. *Flora zambesiaca* 9(2): 28 (1997).

Malawi. Nyika Plateau, without precise locality, 1,210–2,135 m, 1896, Whyte 199 (K, syn.).

PITTOSPORACEAE

Pittosporum viridiflorum Sims ✧

Evergreen tree to 20 m high, usually less, bark light creamy brown, minutely pustulate; leaves alternate, simple, more or less glossy green above, hairless; flowers white, fragrant; fruit a yellowish capsule splitting to reveal red sticky seeds; fruit and leaves aromatic when crushed; in and on edges of montane forest, in riverine forest, moist miombo woodland, and rocky

hills; 1,350–2,450 m. Widespread in Africa; common on Nyika.

Source. Brummitt (1972); Dowsett-Lemaire (1985).

Malawi. Nyika National Park, by lower Mondwe River, 1972, Brummitt & Synge 224 (K, MAL); Mpopoti, 2000, Thera 3055 (MAL).

Zambia. Nyika Plateau, Manyanjere, Kasoma, and Chowo Forests, without collecting details (Dowsett-Lemaire (1985: 315)).

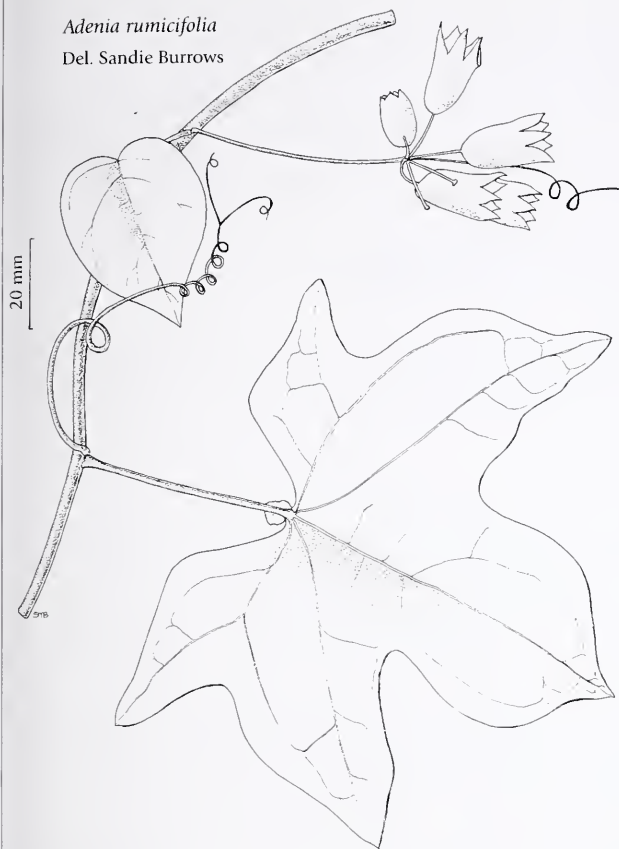
POLYGALACEAE

Polygala albida Schinz subsp. *stanleyana* (Chodat) Paiva ✧

Annual herb 60–400 mm tall; leaves linear to narrowly elliptic, 15–70 mm long, hairless or with hairs on margins; flowers white, greenish white to bluish, in dense terminal and lateral racemes, flowering wings less than 6–

8 mm long (subsp. *albida*) or 4–6 mm (subsp. *stanleyana* (Chodat) Paiva); in miombo woodland, wooded grassland; also in cultivated areas and along roadsides; to 1,600 m or more. South Africa to Namibia, Angola, D.R.C., and Uganda.

Adenia rumicifolia
Del. Sandie Burrows



Phytolacca dodecandra
Del. Heather Wood



Peperomia abyssinica
var. *abyssinica*
Del. Sandie Burrows

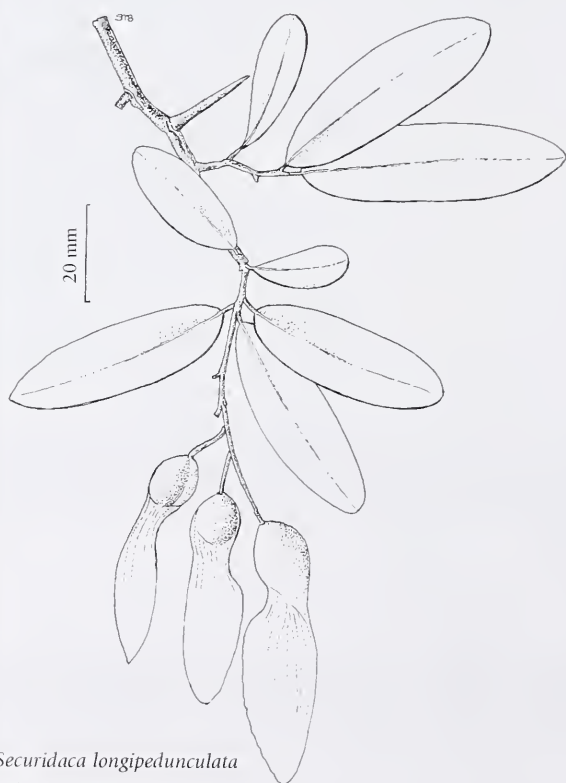
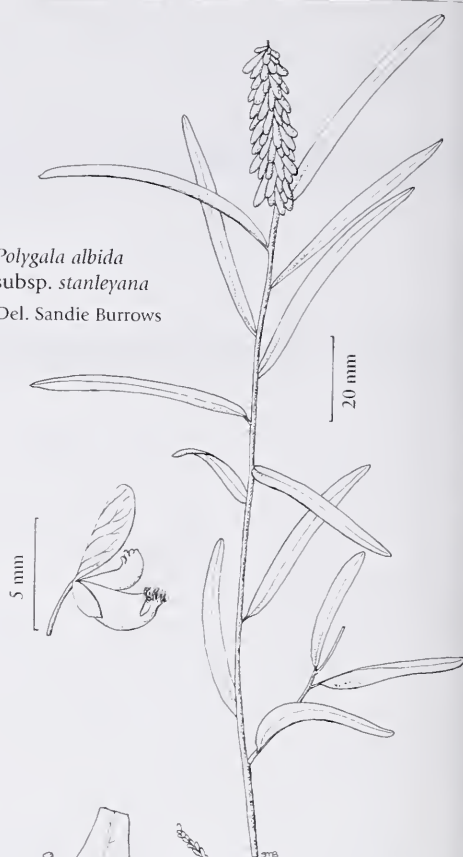


Piper capense var. *capense*
Del. Sandie Burrows



Pittosporum viridiflorum
Del. Sandie Burrows

Polygala albida
subsp. *stanleyana*
Del. Sandie Burrows



Securidaca longipedunculata
Del. Sandie Burrows



Polygonum strigosum
Del. Sandie Burrows

Source. *Flora zambesiaca* 1(1): 320 (1960); Paiva (1998: 190).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Fingira Rock, 2000, *Willis & Luhanga* 220 (PRE).

Polygala erioptera* DC. subsp. *erioptera

Annual herb 100–400 mm tall, much-branched from the base; leaves linear-oblong-elliptic, 8–30 mm long, hairy; flowers greenish white, in short, few-flowered lateral racemes; in grasslands and roadsides, often weedy. Widespread in tropical Africa and tropical Asia. One of the most variable species of *Polygala*.

Source. *Flora zambesiaca* 1(1): 316 (1960); Paiva (1998).

Malawi. Nyika Plateau, without precise locality, 1903, *McClounie* 43 (K).

***Polygala exelliana* Troupin**

Shrub or perennial herb to 2.5 m tall; leaves linear-elliptic to elliptic, 25–70 mm long, densely hairy, apex rounded or acute; flowers red or purple, in congested terminal racemes usually 40–50 mm long; in montane grassland, marshes, streamsides, and forest margins; to 1,640 m. N. Malawi, Tanzania, D.R.C., and Zambia.

Source. UZL; *Flora zambesiaca* 1(1): 320 (1960).

Malawi. Nyika Plateau, Mupopo area, 1967, *Richards* 22614 (UZL).

***Polygala lactiflora* Paiva & Brummitt**

Branching suffrutescent to 2 m tall, stems glabrous; leaves alternate, petiole 0.5–1 mm long, lamina linear to narrowly elliptic, 15–35 x 2–5 mm, apex acute, base tapering, glabrous; flowers white with a lilac tinge; among rocks in montane grassland; 2,000–2,470 m. Endemic to the Nyika Plateau in Malawi.

Source. Brummitt (1972); Paiva & Brummitt (1986).

Malawi. Nyika National Park, E. foot of Nganda, 1972, *Brummitt & Syngae WC111* (K, holo., EA, LISC, MAL, PRE, SRGH, iso.); Mondwe Valley, 1972, *Brummitt & Syngae WC246* (K, LISC, MAL, SRGH).

***Polygala macrostigma* Chodat**

Polygala splendens Exell

Annual or biennial shrub to 2 m tall with erect branches; leaves linear, up to 250 mm long, 4–5 mm wide, few stiff hairs on upper surface; flowers purple, fading to white, in terminal, many-flowered racemes to 300 mm long; in woodland or montane grassland; up to 1,900 m. Mozambique, Malawi, Tanzania, D.R.C., and Angola. The roots are chewed as a remedy for coughs.

Source. Brummitt (1972).

Malawi. Nyika National Park, ridge above Mondwe Valley, 1972, *Syngae* 258 (K).

***Polygala nyikense* Exell**

Erect perennial to 140 mm tall, from a woody rootstock; leaves narrowly elliptic-oblong, 5–22 mm long, hairless, apex obtuse to acute, mucronate; flowers magenta to pale mauve, in somewhat congested terminal racemes 20–50 mm long; in submontane grassland; to 2,300 m. Near-endemic to Nyika; also collected near Mbeya in southern Tanzania.

Source. *Flora zambesiaca* 1(1): 317 (1960); Paiva (1998: 204).

Malawi. Nyika Plateau, without precise locality, 1903, *Henderson* s.n. (BM).

Zambia. Between Kongula and Kangampanda Mountains (Chowo Forest) and the Nyasaland (Malawi) border, near Mt. Mwanda, 1932, *Temperley* s.n. (BM).

Type: *Benson* 1392 (BM, holo.)

***Polygala ohlendorffiana* Eckl. & Zeyh.**

Perennial with sprawling stems from a woody rootstock; leaves broadly elliptic to roundish, 5–15 mm long, thinly hairy, apex obtuse; flowers pur-

ple to pink, sometimes streaked with yellow, in few-flowered terminal racemes; in montane grassland; 1,800–2,300 m. South Africa to S. Tanzania.

Source. *Flora zambesiaca* 1(1): 317 (1960).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Polygala petitiiana* A.Rich.**

Annual herb to 0.9 m tall; leaves linear to very narrowly elliptic, hairless, tips needle-like; flowers blue, white or yellow, in elongated terminal racemes to 150 mm long; in miombo woodland or montane grassland. The subspecific identification of the Nyika plants has not been established; both subsp. *petitiiana* var. *petitiiana* and subsp. *parviflora* (Exell) Paiva could occur there.

Source. *Flora zambesiaca* 1(1): 334 (1960); Paiva (1998).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); without locality, 2000, *Thera* 3108 (MAL); Mwanda area, 2000, *Winter* 4164 (MAL, PRE, SRGH, UZL).

***Polygala stenopetala* Klotzsch**

Polygala viminalis Gürke

Perennial herb or shrublet to 1.5 m tall, stems slender, erect, slightly winged; leaves linear, grass-like, 15–50 mm long, 1–5 mm wide, hairless; flowers blue or greenish, with purple-brown veining, in elongated terminal racemes to 200 mm long; in miombo woodland, wooded grassland or montane grassland. Mozambique, Malawi, Zambia, Angola, and Tanzania.

Source. *Flora zambesiaca* 1(1): 331 (1960); Brummitt (1972).

Malawi. Nyika National Park, E. foot of Nganda, 1972, *Brummitt & Syngae* 105 (K, MAL, SRGH, LISC); Fingira Rock, 2000, *Willis & Luhanga* 234 (MAL, PRE, UZL).

***Polygala usafuensis* Gürke**

Annual herb or shrublet 1–2 m tall; leaves linear to very narrowly elliptic, 10–70 mm long, 2–8 mm wide, hairy; flowers salmon-pink to orange-red, in elongated terminal racemes up to 300 mm long; habitat unknown. Zambia and Malawi northwards to Angola, C.A.R., Uganda, and Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Polygala virgata* Thunb. var. *decora* (Sond.) Harv.**

Woody shrub 1–3 m tall, branchlets often arching; leaves linear to narrowly elliptic, 20–90 mm long, hairy when young only, apex acute; flowers large, deep purple to pale lilac, in terminal many-flowered racemes 30–150 mm long; on margins of montane forest and in montane scrub; up to 2,300 m. From South Africa to D.R.C. and Tanzania.

Source. *Flora zambesiaca* 1(1): 318 (1960); White *et al.* (2001: 435).

Malawi. Nyika National Park, without locality, 1946, *Brass* 17206 (K); without locality or collecting details (Patel 1999). *Brass* 17200, according to Brenan (1953).

***Securidaca longipedunculata* Fresen. ❖**

tree violet; *Chichewa*: bwazi, mbwazi; *Tonga*: njefu; *Tumbuka*: muwuluka

Small erect tree to 6 m tall; leaves simple, alternate, variable in shape, broadly oblong to narrowly elliptic, more or less hairless, grey-green; flowers pink or purple, sweet-scented, in terminal or lateral racemes; fruit an obliquely winged nut; in various types of woodland; sea-level to 1,700 m. Widespread in tropical Africa. *Securidaca* has a wide range of medicinal uses; the roots may be toxic in excess. The bark yields a strong fibre used to make string and fishing nets, once important around Lake Malawi; a rough cloth, *devere*, was also once woven from the fibre.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); near Kaparekezi Gate, 2000, *Salubeni & Mwanyambo* 6839 (MAL).

POLYGONACEAE

***Polygonum nepalense* Meisn.**

Polygonum alatum Buch.-Ham. ex Spreng.

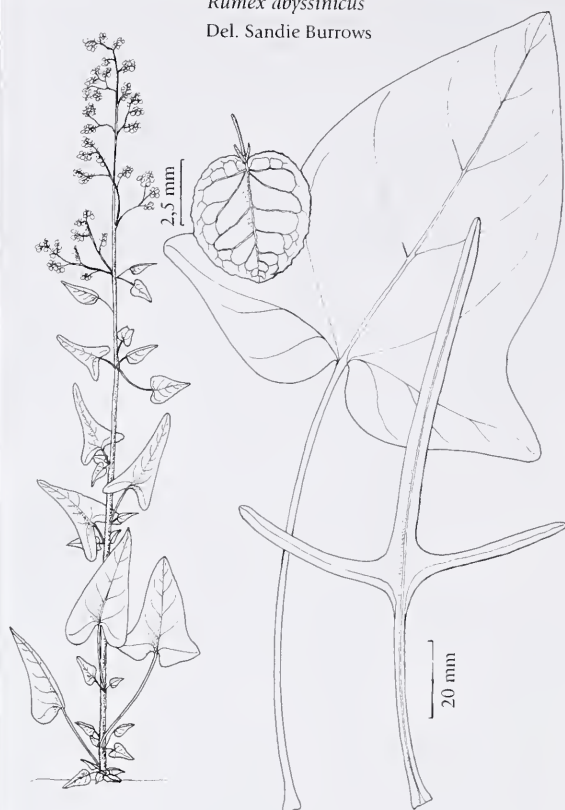
Slender branching straggly annual herb, stems rooting at nodes; leaves petiolate, ovate to ovate-deltoid, to 50 x 30 mm, base truncate or abruptly narrowing with basal auricles; flowers in a terminal capitate head, bluish

white to white; along streams, in marshes, moist grasslands, and forest margins; 1,140–2,700 m. Tropical Asia and throughout tropical Africa; possibly introduced to South Africa.

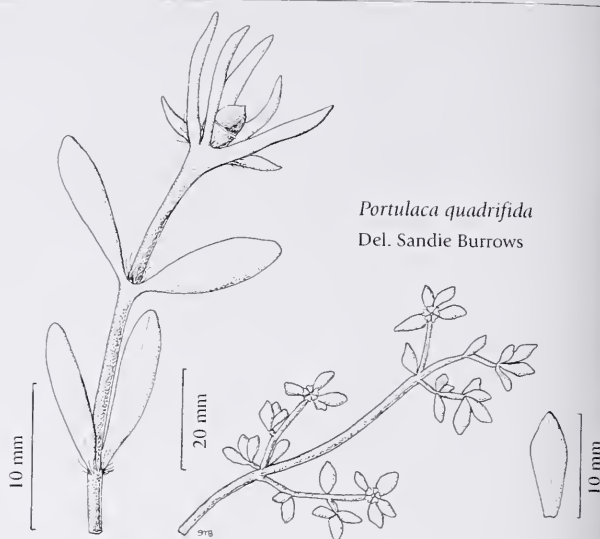
Source. *F.T.E.A. Polygonaceae*: 12 (1958).

Malawi. Nyika National Park, without locality or collecting details (Mill

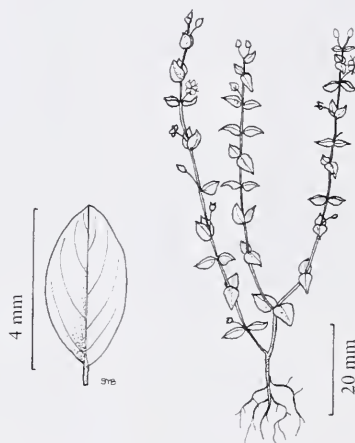
Rumex abyssinicus
Del. Sandie Burrows



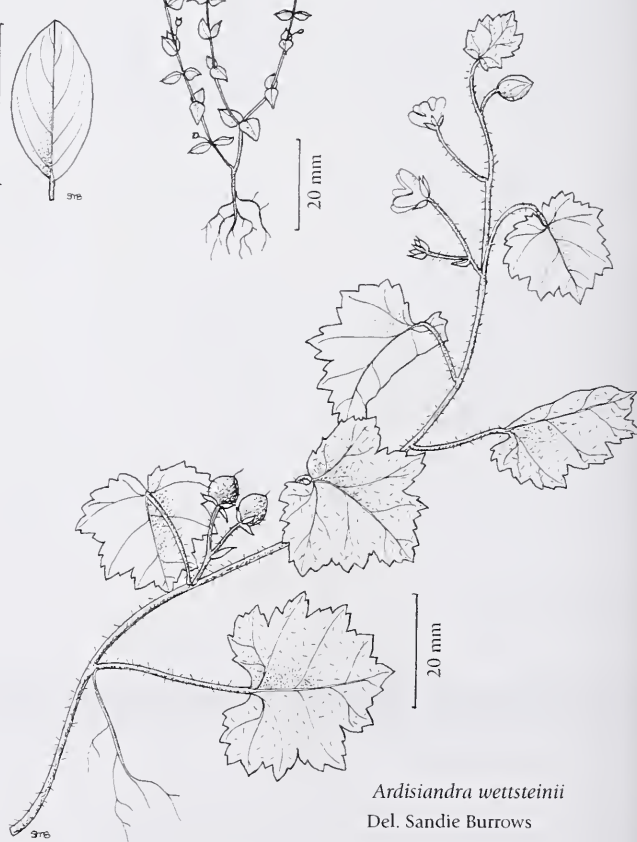
Portulaca quadrifida
Del. Sandie Burrows



Anagallis djaloni
Del. Sandie Burrows



Lysimachia ruhmeriana
Del. Sandie Burrows



Ardisiandra wettsteinii
Del. Sandie Burrows

1979); Fingira Rock, 2000, *Winter 4229* (MAL, PRE).

***Polygonum salicifolium* Willd.**

Erect or basally decumbent slender annual to 1 m tall with green glabrous stems; leaves sessile, narrowly lanceolate-elliptic, 80–150 x 10–20 mm, base attenuate, hairless except for hairs on the margins and on the veins below; flowers in a slender spike-like raceme with a somewhat zig-zag appearance, rose-pink to white; nut trigonous, glossy, 2–2.5 mm long; in damp places, often growing in water; 0–2,400 m. Throughout tropical Africa; also in Madagascar, tropical Asia, tropical America, and Australia.

Source. *F.T.E.A.* Polygonaceae: 17 (1958).

Malawi. Nyika National Park, Kasewerera, 2001, without collecting details (Patel & Overton 2002: 38).

***Polygonum strigosum* R.Br. ✧**

Polygonum pedunculare Wall. var. *angustissimum* Hook.f.; *Truellum strigosum* (R.Br.) Sojak

Slender erect annual herb to ca 1.5 m tall; leaves petiolate, narrowly linear-lanceolate to lanceolate, 80–100 x 8–16 mm, base truncate to sagittate, underside with rough bristly hairs; flowers in a lax, slender, branched pani-

cle, rose-pink or white edged with pink; in wet places or river-banks, often growing in water; 1,110–1,920 m. Widespread in tropical Africa, including South Africa; also Madagascar, Asia, and Australia.

Source. *F.T.E.A.* Polygonaceae: 16 (1958).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Rumex abyssinicus* Jacq. ✧**

Acetosa abyssinica (Jacq.) Love & Kap.

Large stout perennial herb to 4 m tall; leaves petiolate, large, up to 300 x 200 mm, usually triangular-hastate, but also sagittate, scutate or sublinear, basal lobes spreading; inflorescence large, much-branched up to 400 mm long and 250 mm wide; fruit more or less circular or elongate, ca 5 mm diameter, membranous, reddish brown; in montane grassland, forest margins, and montane scrub; 750–3,300 m. Widespread in the mountains of tropical Africa; also in Madagascar.

Source. *F.T.E.A.* Polygonaceae: 7 (1958).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Zambia. Nyika National Park, Rest House area, 2000, *Phiri 3736* (UZL).

PORTULACAEAE

****Portulaca quadrifida* L. ✧**

Prostrate annual herb with a thick taproot, stems reddish; leaves opposite, fleshy, to 10 x 4 mm, lanceolate to elliptic, hairless; flowers with 4(5) yellow, orange or pink petals; seeds many, borne in a conical-ovoid capsule. A weed of cultivation; origin unknown, but throughout the tropics. This spe-

cies is apparently confined to hot, low-altitude areas within the *Flora zambesiaca* area and it is highly unlikely that Whyte collected this species on the Nyika.

Source. *Flora zambesiaca* 1(2): 365 (1961).

Malawi. Nyika Plateau, 1896, *Whyte s.n.* (K).

PRIMULACEAE

***Anagallis djalensis* A.Chev. ✧**

Anagallis pumila Sw. var. *djalensis* (A.Chev.) P.Taylor

Erect tufted annual herb 30–90 mm tall, stems simple or branched from the base; leaves 5–13 mm long, alternate, broadly spatulate, apex acute, base tapering abruptly; flowers white or pale pink, single in leaf axils, on slender stalks to 9 mm long; on damp soils in miombo woodland or riverine forest. Malawi and Zambia northwards to Angola, Guinea, and Kenya.

Source. *Flora zambesiaca* 7(1): 195 (1983).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Manchewe Falls, top of Livingstonia Escarpment, 1,160 m, 1971, *Pawek 4912* (K, MAL) [this locality is outside the National Park boundary but is still part of the Nyika massif].

***Ardisiandra wettsteinii* R.Wagner ✧**

Ardisiandra orientalis Weim. incl. var. *hirsuta* Weim.; *Ardisiandra stolzii* Weim.

Creeping perennial herb, all parts with long hairs, stems to 1 m long; peti-

ole 10–30 mm long, leaves broadly ovate to round, 10–30 mm diameter, 5- to 9-lobed, toothed; flowers in few-flowered clusters, corolla bell-shaped, divided into 5 lobes, white to pale lilac; in deep shade of evergreen forest. Zimbabwe to D.R.C. and Kenya.

Source. Brummitt (1973); *Flora zambesiaca* 7(1): 185 (1983).

Malawi. Nyika National Park, forest 4 km W. of Nganda, 1972, *Brummitt & Syngé 77* (K, MAL, SRGH); Lake Kaulime, 1958, *Robson & Angus 276* (K).

Zambia. Nyika, without locality, 1962, *Fanshawe 7324* (K).

***Lysimachia ruhmeriana* Vatke ✧**

Robust erect perennial herb to 1 m tall, stems reddish; leaves to 60 x 15 mm, elliptic to lanceolate, surface dotted with irregular black glands; flowers in long terminal racemes to 300 mm long, white, pink or mauve; on damp soils in swamps or near rivers. Throughout tropical Africa from South Africa to Cameroon and Ethiopia; also in Madagascar.

Source. *Flora zambesiaca* 7(1): 187 (1983).

Zambia. Nyika, without locality, 1962, *Fanshawe 7335* (K, SRGH).

PROTEACEAE

***Faurea delevoyi* De Wild.**

Medium to large tree to 30 m; leaves sessile to subsessile, to 190 x 50 mm, glossy green above, paler below, glabrous, but with a few long weak hairs near the lf base beneath, apex acute, mucronate; flowers in dense spikes to 120 mm long, fragrant, smelling of creamy milk; in riverine forest; to 2,000 m. Zimbabwe and Mozambique to Angola, D.R.C., and Tanzania.

Source. Brummitt (1973: 71); S. Marner, pers. comm.

Malawi. Nyika National Park, Thazima Gate, 2000, *Burrows & Maroyi 6830* (MAL, PRE); Sawi Valley, 1972, *Syngé 423* (FHO, K, MAL); Chisanga Falls, 1,800 m, 1986, *Marner 37* (FHO).

***Faurea rochetiana* (A.Rich.) Chiov. ex Pichi-Sermolli**

Faurea speciosa Welw.

broad-leaved beech; *Chichewa*: chinsense; *Tumbuka*: chise; *Yao*: mseje Small tree to 10 m tall, usually spreading with a rather crooked habit, bark very rough, dark grey; petiole stout, 5–12 mm long, leaves to 210 x 90 mm, leathery, mid-green above, finely hairy below (often all silky hairy when young, often persisting to maturity in Nyika material); flowers in thick

pendulous spikes to 250 mm long; in various types of mixed woodland and in wooded grassland, often on rocky hillsides; 900–2,400 m. South Africa to Angola, Nigeria, and Ethiopia. Used medicinally to cure diarrhoea.

Source. Brummitt (1973: 71).

Malawi. Nyika National Park, S. slopes of Kawozya, 1972, *Brummitt & Syngé 180* (K, MAL); Zungwara Circular Drive, 2000, *Thera 3067* (MAL).

***Faurea saligna* Harv. ✧**

African beech; *Chichewa*: chinsense; *Yao*: mseje, mtatasika

Small to medium tree to 17 m tall, trunk more or less straight, bark rough, mid-grey; petiole pink-red, to 15 mm long, leaves lanceolate-elliptic, to 160 x 35 mm, more or less glabrous throughout, often glaucous-green; flowers in pendulous spikes to 120 mm long, smelling of coconut or honey; in various types of mixed woodland or wooded grassland; 700–1,800 m. South Africa to Angola, D.R.C., and Kenya. The timber has an oak-like grain and makes attractive furniture; also makes good charcoal and is said to be termite-resistant.

Source. Brummitt (1973: 71).

Malawi. Nyika National Park, Sawi Valley, 1972, *Synge* 430 (K, MAL); Chisanga Falls, 2000, *Chapama* 158 (MAL); *ibid.*, 1986, *Marnier* 36 (FHO).

***Faurea wentzeliana* Engl.**

Chipoka: musese; *Tumbuka*: chinsense

Medium to large tree to 35 m tall, trunk more or less straight; petiole 10–15 mm long, roundish, leaves to 150(200) × 40 mm, bright glossy green above and below, glabrous, margins wavy, venation red, especially in young leaves; flowers usually in short dense terminal or axillary spikes, sometimes to 130 mm long; in montane rainforest; 1,400–3,000 m. Malawi, Tanzania, D.R.C., Burundi, and Rwanda.

Source. S. Marnier, pers. comm.

Malawi. Nyika escarpment, Mwenembwe Rainforest, W. slope of upper Henga Valley, 20 miles from Livingstonia, 1952, *Chapman* 60 (FHO, K).

***Protea angolensis* Welw. var. *angolensis* ●**

Suffrutex with numerous simple stems to 1 m tall; leaves narrowly elliptic to oblanceolate, rarely broadly elliptic, glabrous and often glaucous; flowering heads 80–120 mm diameter, bracts more or less hairless, flowers white, perianth-claw hairy; in montane grassland, or dambos, occasionally in woodland; 1,200–2,135 m. Zimbabwe to Angola, D.R.C., and Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999); Fingira Rock, 2000, *Willis & Luhanga* 252 (PRE).

***Protea angolensis* Welw. var. *divaricata* (Engl. & Gilg) Beard ●**

Protea chionantha var. *divaricata* Engl. & Gilg

Branching shrub or small tree to 4 m or more; leaves oblanceolate to narrowly elliptic, dark green, glaucous; flowering heads 90–160 mm diameter, bracts mostly silky-hairy, flowers white, perianth-claw mostly hairless; in miombo woodland or associated grasslands; 600–2,300 m. Zimbabwe to Angola, D.R.C., and Tanzania.

Source. Brummitt (1973: 71).

Malawi. Nyika National Park, lower Mondwe River, 1972, *Brummitt & Syngé* 233 (K); Thazima Camp, 2000, *Chapama* 168 (MAL); *Izidine* 39 (LMA).

***Protea angolensis* Welw. var. *trichanthera* (Baker) Brummitt**

Protea trichanthera Baker; *Protea angolensis* forma *trichanthera* (Baker) Beard

Branching shrub or small tree to 4 m or more; leaves elliptic or oblanceolate to broadly obovate, usually dark green, glaucous; flowering heads 100–160 mm diameter, bracts mainly silky-hairy, flowers pink, perianth-claw mostly glabrous; mainly in miombo woodland or associated grassland; 1,100–2,000 m. Malawi, Zambia, D.R.C., and Tanzania.

Source. Brummitt (1973: 71).

Malawi. Southern spur of Nyika, 1972, *Synge* 362 (K); Nyika Plateau, *White* 2815; *Beard* 973 (Beard 1963: 156).

***Protea caffra* Meisn. subsp. *mafinensis* Chisumpa & Brummitt**

Shrub or small tree to 4 m or more; leaves obovate to lanceolate, 2–3 times as long as broad; flowering heads 60–130 mm diameter, bracts more or less hairless or with some brown hairs, flowers white or pink; on rocky outcrops in montane grassland; 2,070–2,240 m. Known only from the Mafinga Hills of Zambia and Malawi and the Nyika Plateau (recorded only from the Malawi side).

Source. Chisumpa & Brummitt (1987: 830).

Malawi. Nyika Plateau, Chelinda Hill, 1959, *Adlard* 308 (FHO, K, SRGH); Chelinda dam, 2000, *Chapama* 188 (MAL); summit of Kawozya, 1972, *Brummitt & Syngé* WC198 (K, MAL, SRGH).

***Protea heckmanniana* Engl. subsp. *heckmanniana* ●**

Protea salicifolia Mildbr.

Suffrutex from a woody rootstock with several erect stems 150–500 mm tall, stems hairy; leaves narrowly elliptic-oblong to linear-elliptic, thinly hairy; flowering heads 30–45 mm diameter; in montane grassland; 1,830–2,900 m. Endemic to northern Malawi (Nyika and Misuku Hills), Zambia (Nyika), and the Southern Highlands of Tanzania.

Source. Chisumpa & Brummitt (1987: 844).

Malawi. Nyika National Park, Chelinda Dam, 2000, *Chapama* 186 (MAL); Chelinda Bridge, 2000, *Salubeni & Mwanyambo* 6775 (MAL) (This last collection may be an incorrect identification of the following species).

Zambia. Rest House area, 2000, *Phiri* 3754 (UZL).

***Protea kibarensis* Hauman subsp. *cuspidata* (Beard) Chisumpa & Brummitt ●**

Suffrutex with numerous simple erect stems arising from a woody rootstock, stems more or less glabrous, leaves linear to linear-elliptic, stiff, shiny, glabrous; flowering heads 60–90 mm diameter; in rocky montane grassland; 1,500–2,200 m. Endemic to the Nyika and Mafinga mountain areas of the Zambia–Malawi border. *P. kibarensis* subsp. *kibarensis* is confined to S.E. D.R.C.

Source. Chisumpa & Brummitt (1987: 845).

Malawi. Nyika Plateau, Chelinda Bridge, 1968, *Lady Watcyn Williams* 11 (MAL); Chelinda Bridge, 2000, *Kasakula* 236 (MAL).

***Protea madiensis* Oliv. subsp. *madiensis* ●**

Protea bequaerti De Wild.

Branched shrub or small tree, branches sometimes densely hairy when young, dark purple, glabrous when mature; leaves variable, narrowly elliptic to broadly ovate, to 210 × 110 mm, glabrous at maturity; flowering heads 100–170 mm diameter; bracts more or less glabrous, creamy to brown, sometimes pink-tipped, perianth limb more or less glabrous; usually in upland grassland at 1,500–2,150 m, or in woodland at 500–1,500 m. Malawi and Zambia northwards to Angola, Nigeria, Sudan, and Ethiopia.

Malawi. Nyika Plateau, without precise collecting details, *White* 2778; Nchenachena Spur, 1946, *Brass* 17362 (Beard 1963: 159).

***Protea petiolaris* (Engl. ex Hiern) Baker subsp. *elegans* Chisumpa & Brummitt**

Tree 2–8 m tall, young branches glabrous; leaves drooping, narrowly oblanceolate to linear-lanceolate, often falcate (curved), 100–160 × 10–30 mm, glabrous, tapering gradually to a long slender base; flowering heads ca 100 mm diameter, bracts more or less glabrous, cream- and pink-tipped; in high-altitude miombo woodland, usually on poor soils and rocky areas on hillsides; 1,200–2,280 m. Zimbabwe, Zambia, Malawi, D.R.C., and Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); without locality, *Beard* 962 (Beard 1963: 189).

Zambia. Nyika National Park, Kaperekezi entrance, 1981, *Van der Linden* 428 (BR, K).

***Protea rupestris* R.E.Fr. ❖●**

Tree 8–10 m tall, branchlets glabrous; leaves clustered at branch tips, linear-oblanceolate, sometimes falcate, base long cuneate to slightly rounded, sessile, glabrous, usually glaucous; flowering heads large, 120–180 mm diameter, the bracts folding downwards through 180° at maturity; in *Brachystegia-Uapaca* woodland on poor soils; 1,200–1,950 m. Malawi, Mozambique, Zambia, Angola, D.R.C., and Tanzania.

Source. Brummitt (1973: 71).

Malawi. Nyika National Park, S. slopes of Kawozya, 1972, *Brummitt & Syngé* 179 (K, MAL); Nyika Plateau, without precise locality, *Beard* 972 (Beard 1963: 163).

Protea welwitschii* Engl. subsp. *welwitschii

Shrub or small tree to 3 m tall, stem gnarled and crooked with dark rough bark; leaves sessile, oblong-elliptic to oblanceolate, densely brownish hairy, flowering head single, sometimes 2 or more clustered together, bracts densely set with silvery or russet hairs; in woodland, wooded grasslands, or dambos; 1,000–2,100 m. South Africa to Angola, D.R.C., Uganda, and Tanzania. A very variable species with controversial taxonomic concepts, but we generally accept that it is too variable to be treated as a single species and therefore follow Beard's (1993) four subspecies concept.

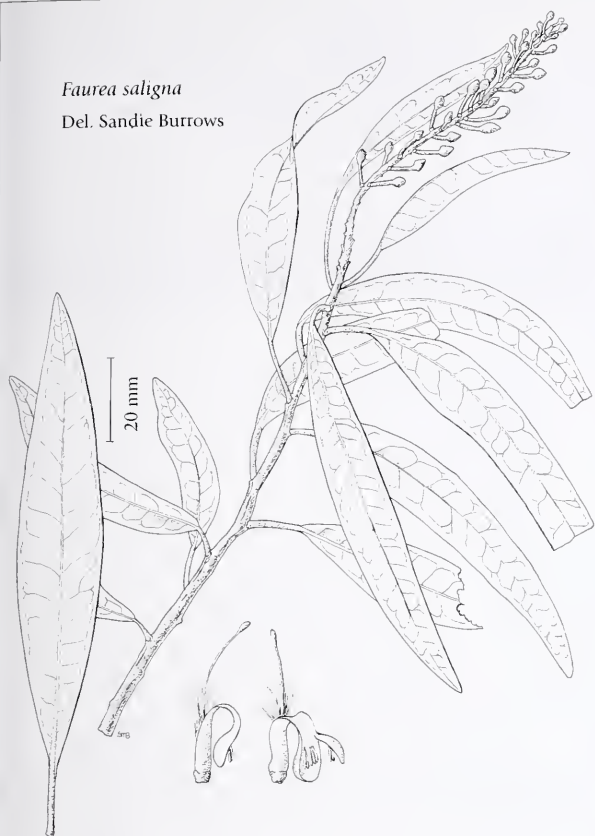
Source. Chisumpa & Brummitt (1987: 831); Beard (1993).

Malawi. Nyika National Park, Chisanga Falls, 2000, *Kasakula* 210 (MAL).

The two other collections below may also be referable to *Protea welwitschii*,

Faurea saligna

Del. Sandie Burrows



Protea rupestris

Del. Pat Halliday



Clematis uhehensis

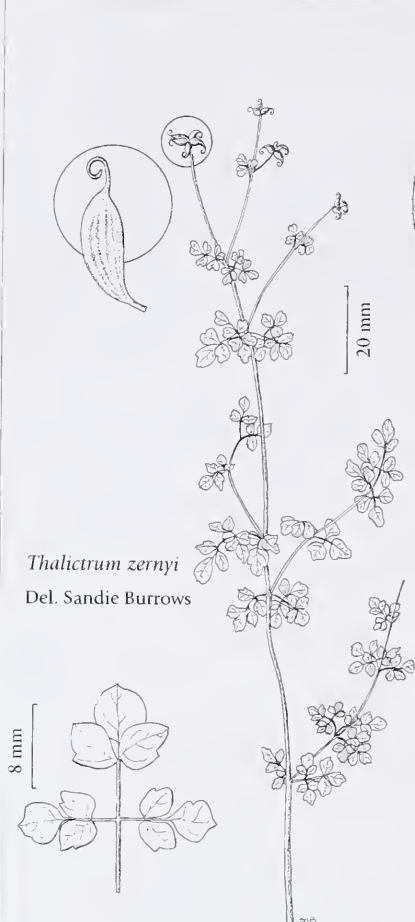
Del. Sandie Burrows



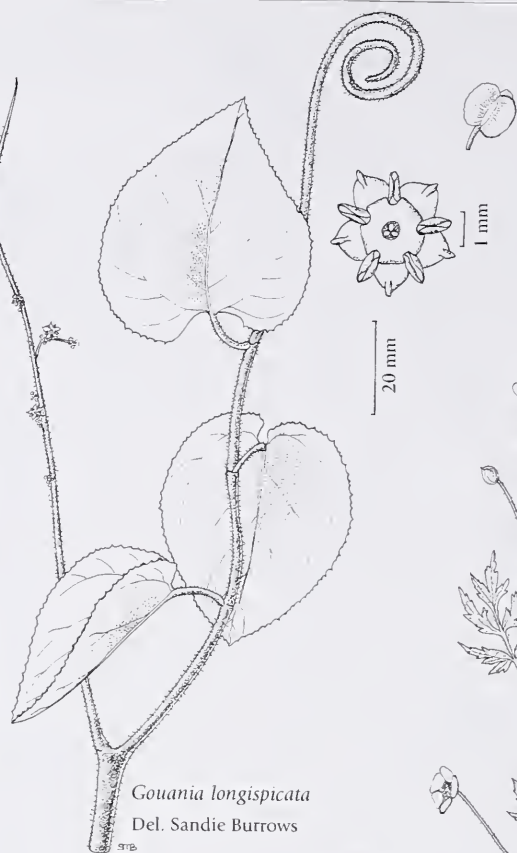
Delphinium leroyi

Del. Sandie Burrows

Thalictrum zernyi
Del. Sandie Burrows



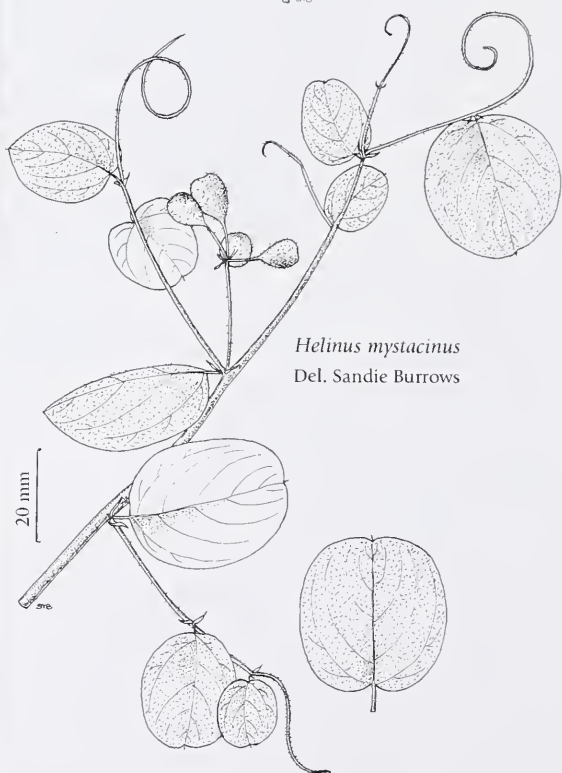
Gouania longispicata
Del. Sandie Burrows



Ranunculus multifidus
Del. Sandie Burrows



Helinus mystacinus
Del. Sandie Burrows



Phylla tropica
Del. Sandie Burrows



but have much narrower and less hairy leaves. The collector in the field suggested *Synge* 327 to be a hybrid of *P. welwitschii*, with which it grew, and another species. Further field investigation is required.

Source. Brummitt (1973: 72).

Malawi. Nyika National Park, 2 km W. of Muzengapakweru, 1972, *Synge* 327 & 374 (K).

***Protea wentzeliana* Engl.**

Protea neocrinita Beard

RANUNCULACEAE

***Clematis brachiata* Thunb.**

Chichewa: chisa cha mabvu, kongwe

Often robust woody climber to 20 m tall, bark peeling in long flaky strips; leaves pinnate with 3–7 leaflets, petioles often twining as a climbing aid; flowers white with yellow anthers, seeds in a silvery fluffy head, wind-blown; in woodland, wooded grassland, montane forest, and on forest margins; 500–2,450 m. Widespread in tropical and South Africa.

Source. *Flora zambesiaca* 1(1): 91 (1960).

Malawi. Nyika Plateau, 1903, *McClounie* 129 (K).

Clematis chrysocarpa* Welw. ex Oliv. subsp. *bijuga

Brummitt ●

Clematopsis chrysocarpa (Welw. ex Oliv.) Hutch. sensu Brummitt

(1976), excl. subsp. *chrysocarpa*

Erect herb or shrublet to 2 m tall; leaves 3-foliolate or pinnate with 2–3 pairs of side leaflets (the side leaflets sometimes 3-foliolate); flowers solitary, white, petals 2–3.2 mm long; seed heads golden brown; in moist miombo woodland, montane scrub margins of secondary forest. Zambia, Malawi, N. Mozambique, Tanzania, and D.R.C. This and the next species are still very difficult to distinguish from one another since almost all the characters used by Brummitt (1976, 2000) are very plastic and intermediates are common on the Nyika.

Source. Brummitt (1976); Brummitt (2000).

Malawi. Nyika Plateau, Rumphi Rd, just outside National Park, 1967, *Hilliard & Burtt* 4454 (K); ascent to Nyika Plateau from Katumbi 4 km outside National Park, 1970, *Brummitt* 10922 (K, LISC, MAL, PRE, SRGH); Nyika National Park, without locality or collecting details (Patel 1999).

***Clematis uhehensis* Engl. ✧**

Clematopsis scabiosifolia (DC.) Hutch. subsp. *uhehensis* (Engl.)

Brummitt

Chichewa: chanzi, nakauli

Erect herb or shrublet 1–2 m tall; leaves simple; flowers one to many per stem, white, petals 3.2–6 mm long; seed head with silvery grey hairs; in montane grassland and montane scrub. Confined to Tanzania, E. D.R.C., and the Nyika Plateau. This species is thought to hybridise readily with *C. chrysocarpa* subsp. *bijuga* (Brummitt 2000: 101).

Source. Brummitt (1976); Brummitt (2000).

Malawi. Nyika National Park, end of road by Dembo River, 1970, *Brummitt* 10673 (K); Rumphi River bridge, 1974, *Pawek* 7910 (K, MAL, MO, SRGH, US); Wowwe River catchment, 2000, *Willis* 165 (MAL, PRE).

Zambia. Nyika Plateau, 1955, *Lees* 104 (K); 1962, *Fanshawe* 7317 (K); 1964, *Benson* NR413 (K).

***Delphinium dasycaulon* Fresen. ●**

Erect perennial herb 0.5–1 m tall; leaves arising from base of stem on a long slender petiole, palmate with coarsely toothed margins; flowers deep blue, spur 5–8 mm long, not scented; in rank vegetation in montane grassland, forest margins or montane scrub; to 2,150 m. Malawi, N. Mozambique, Zambia, and up eastern Africa to Ethiopia. Pollinated by bees.

Source. Mill (1979); Johnson (2001).

Malawi. Nyika National Park, Sangule Peak, 2000, *Izidine* 86 (LMA); near Zovochipolo on the Thazima road, 1999, *Burrows* 6489 (Buffelskloof Herbarium).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest area), 1952, *White* 2742 (FHO, K); Rest House area, 2000, *Phiri* 3861 (UZL).

***Delphinium leroyi* Franch. ex Hutch. ✧●**

Branching shrub to 1.3 m tall, stems hairy or not; leaves elliptic to narrowly oblanceolate, hairy; flowering heads 70–100 mm diameter, bracts thickly set with rusty hairs; in grassland or ericaceous scrub; 1,200–2,000 m. S.W. Tanzania, Malawi (Nyika), Zimbabwe (Chimanimani Mountains), adjacent Mozambique, D.R.C., and Angola. It is with some hesitation that we include *P. neocrinita* here as a synonym.

Source. Chisumpa & Brummitt (1987: 836).

Malawi. Nyika Plateau, without precise locality, *Beard* 983 (Beard 1963: 199); Kasaramba, 1946, *Brass* 17261 (herbarium unknown).

***Delphinium wellbyi* Hemsl.**

Erect herb 0.5–1.5 m tall; leaves mainly arising from the base of the plant, borne on long slender petioles, palmate, each lobe with smaller, sharply-pointed teeth or lobes; flowers white with black or dark purple anthers, spur 30–40 mm long, sweetly scented; in montane grassland, often common and conspicuous in the landscape; to 2,440 m. Nyika Plateau northwards to Kenya and Sudan. Pollinated at dusk by hawk moths (see Johnson 2001).

Malawi. Nyika National Park, Chosi Viewpoint, 2000, *Izidine* 4 (LMA); near Chelinda Camp, 1999, *Burrows* 6485 (Buffelskloof Herbarium).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White* 2741 (FHO, K); Rest House area, 2000, *Phiri* 3831 (UZL).

Delphinium dasycaulon* x *leroyi

Flowers sky-blue, very pale blue or off-white, flowering shape and spur length intermediate between the two species. Found occasionally where the two species overlap.

Source. Johnson (2001).

Malawi. Nyika Plateau, near entrance gate to Nyika (Moriarty 1975: pl. 33,3).

***Ranunculus multifidus* Forssk. ✧**

African buttercup

Perennial herb to 1 m tall, stems much-branched in upper part; leaves 2- to 3-pinnatisect, margins coarsely toothed, variously hairy; flowers with 5 yellow petals 3–7 mm long; seeds 40–60 in a spherical head; in wet areas in grassland, dambos, marshes, and stream banks; sea-level to 2,000 m. Widespread in Africa; also in Arabia and Madagascar.

Source. *Flora zambesiaca* 1(1): 97 (1960); Brummitt (1972).

Malawi. Nyika Plateau, 1896, *Whyte* s.n. (K); Nyika National Park, E. foot of Nganda, 1972, *Brummitt & Sygne* 108 (K, MAL).

***Ranunculus raeae* Exell**

Perennial herb to 0.6 m tall, with tuberous roots, stems hairy; leaves 3- to 5-palmatisect, margins with a few coarse teeth, hairy when young, becoming glabrous; flowers with 5 yellow petals 8–10 mm long; seeds 12–25 in a spherical head; in wet situations in montane grassland up to 2,140 m, or on river-banks at lower altitudes. N.E. Zambia, Malawi, N. Mozambique, Tanzania, and D.R.C.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Zambia. Nyika, without precise locality, 1962, *Fanshawe* 7240 (K).

***Thalictrum rhynchocarpum* Quart.-Dill. & A.Rich.**

false maidenhair

Soft perennial herb to 4 m tall with fleshy stems; leaves up to 400 mm long, 3- to 4-pinnate, leaflets elliptic to roundish, sometimes 3-lobed or toothed, 8–20 mm broad, base rounded to cordate, texture thin, hairless; flowers small, greenish, in a lax, many-flowered inflorescence; in undergrowth of moist montane forest, often along streams in forest; 1,100–2,400 m. Widespread in the mountainous regions of Africa.

Source. *Flora zambesiaca* 1(1): 96 (1960).

Malawi. Nyika Plateau, 2,350 m, 1946, *Brass* 17281 (K, SRGH); Nyika National Park, Mpopoti Hill, 2000, *Salubeni & Mwanyambo* 6782 (MAL).

Zambia. Nyika National Park, W. of Chowo Forest, 2000, *Phiri* 3924 (UZL).

***Thalictrum zernyi* Ulbr. ✧**

Perennial herb to 0.5 m tall with erect hairless stems; leaves 15–60 mm long, 2-pinnate, leaflets similar, but much smaller than those of *T.*

rhynchocharpum, 5–10 mm broad, bicolorous, dark grey-green above, paler below, hairless; flowers in a few-flowered inflorescence; in montane grassland, often among rocks. Zambia (Nyika only), Malawi, and Tanzania.

Malawi. Nyika National Park, 1956, *Chapman 387* (BM, SRGH); Chelinda Bridge, 2000, *Burrows & Burrows 6841* (MAL, PRE, UZL).

Zambia. Nyika Plateau, without precise locality, 1962, *Fanshawe 7236* (K).

Excluded species

Clematis simensis Fresen.

This species is not mentioned for the Nyika in either *Flora zambesiaca* 1(1)(1960), Dowsett-Lemaire, or any other publication seen by us. White

et al. (2001) suggest that *C. simensis* is not distinguishable from *C. brachiata* and treat it as a synonym of the latter.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

RHAMNACEAE

Gouania longispicata Engl. ✧

Liane up to 20 m, climbing by means of coiled tendrils with reddish hairs; leaves simple, ovate, to 85 × 70 mm, hairy, apex acute to mucronate, margin serrulate, base rounded to cordate; flowers small, in leaf-opposed elongate racemes; fruit 3-winged, 6 × 11 mm, hairy at first; in gaps in forests and on forest margins, in montane and mid-altitude forests; 1,100–2,050 m. Zimbabwe and Mozambique northwards to Nigeria, Sudan, and Ethiopia.

Source. *Flora zambesiaca* 2(2): 434 (1966); White *et al.* (2001: 443).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Zambia. Nyika Plateau, Manyanjere and Kasoma Forests, without collecting details (Dowsett-Lemaire 1985: 320).

Helinus mystacinus (Aiton) E.Mey. ✧

Climbing shrub, branchlets hairy, with hairy coiled tendrils; leaves simple, 20–50 × 13–50 mm, ovate to almost circular, apex rounded, mucronate, upper surface hairless, lower surface variously hairy, petiole to 18 mm long; flowers small, in axillary clusters, peduncle to 20 mm long; fruit obovoid, hairy-tuberculate; on forest margins and in wooded grassland; 100–2,300 m. Zimbabwe northwards to Ethiopia; not recorded for Malawi in *Flora zambesiaca*.

Source. *Flora zambesiaca* 2(2): 436 (1966).

Malawi. Nyika National Park, Thazima-Chelinda road, 2000, *Mwanyambo 526* (MAL).

Phylica tropica Baker ✧

?*Phylica entimensis* var. *nyassae* Pillans ex Verdc.

Shrub to 0.4 m or small tree to 4 m tall, with several ascending hairy branches; leaves small, ericoid, 10–14 mm long, lanceolate; flowers in few-flowered terminal heads (capitula), ca 5 mm long; fruit red, more or less fleshy; in rocky situations in montane grassland; 1,900–2,250 m. Malawi (Mt. Mulanje, Nyika Plateau) and probably southern Tanzania. In modern literature (Lebrun & Stork 1992, White *et al.* 2001) this species is sunk under the Madagascan *P. emirnensis* (Tul.) Pillans; in our opinion, however, the two are sufficiently distinct to maintain the two species until such time that a comprehensive study proves otherwise.

Source. Pillans (1942: 28); *Flora zambesiaca* 2(2): 432 (1966).

Malawi. S. Nyika Mountains, 1896, *Whyte 41* (K, holo.); Nyika National Park, Kasaramba, 1953, *Chapman 103* (White *et al.* 2001: 445).

Rhamnus prinoides L'Hér. ✧

Rhamnus pauciflora A.Rich.

Small tree to 8 m tall, but usually a shrub 1–3 m high, or scandent; leaves alternate, oblong-elliptic, apex tapering, upper surface glossy dark green, paler below, hairless, margins entire to shallowly serrate; flowers axillary, single, on long stalks, cream-green; fruit a small fleshy red to purplish berry; on forest margins, montane scrub, river-banks or in moist woodland; 1,500–2,450 m. South Africa to Angola, Cameroon, and Ethiopia.

Source. Brummitt (1973).

Malawi. Nyika National Park, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Sygne 156* (K, MAL, SRGH, FHO); Dembo Bridge, 2000, *Thera 3013* (MAL); Juniper Forest, 2000, *Chapama 216* (MAL).

Zambia. Nyika Plateau, Manyanjere and Chowo Forests, without collecting details (Dowsett-Lemaire 1985: 323).

RHIZOPHORACEAE

Cassipourea gummiflua Tul. var. **verticillata** (N.E.Br.)

J.Lewis

Evergreen tree 3–20 m tall, interpetiolar stipules present; leaves paired, decussate or in whorls of 3, glabrous, entire or faintly serrate; in upland forest, riverine forest, and other forest types; 1,400–2,100 m. Only on the eastern escarpment on Nyika. South Africa to Cameroon and Tanzania; also on Seychelles and the Mascarene Islands.

Malawi. Nyika Plateau, eastern escarpment Forests, without collecting details (Dowsett-Lemaire 1985).

Cassipourea malosana (Baker) Alston ✧

Cassipourea congoensis auctt., non DC.

Chichewa: kangantimbi, mdondoli

Tree to 25 m tall, often with horizontal branching, bark smoothish, mottled grey; leaves opposite, with an interpetiolar stipule, leathery dark green, margins serrate; flowers in tight axillary clusters, creamy; fruit ellipsoid, 6–10 mm long; in forests of many kinds; 1,000–2,200 m. KwaZulu-Natal to Ethiopia. A very variable species, probably divisible into smaller taxa.

Source. *Flora zambesiaca* 4: 95 (1978).

Malawi. Nyika Plateau, without precise locality, 1965, *Cottrell in GHS 166164* (K); Juniperus Forest, *White 2578d* (White *et al.* 2001).

Zambia. Nyika Plateau, Manyanjere, Kasoma, and Chowo Forests, without collecting details (Dowsett-Lemaire 1985).

ROSACEAE

Alchemilla ellenbeckii Engl. subsp. **nyikensis** (De Wild.)

R.A.Graham ✧

Alchemilla nyikensis De Wild.

Creeping soft herb without a basal rosette of leaves, stems becoming brownish-red; leaves round to reniform, 3- to 5-lobed, lobes shallow, less than half the radius of the leaf, densely hairy or glabrous; flowers and fruit minute on terminal branched inflorescences; in marshy montane grassland or upland bogs; 1,950–2,300 m. Known only from the Nyika and Viphy Mountains of northern Malawi, and Tanzania.

Source. Brummitt (1973).

Malawi. Nyika National Park, N.E. foot of Nganda, 1972, *Brummitt & Sygne 118* (K, MAL, EA, PRE); Dembo Bridge, 2000, *Thera 3010* (MAL); Lake

Kaulime, 2,250 m, 1959, *Richards 10445* (K).

Zambia. Nyika Plateau, without precise locality, 1959, *Richards 10414* (EA, K, LISC); without precise locality, 1962, *Fanshawe 7218* (K, SRGH).

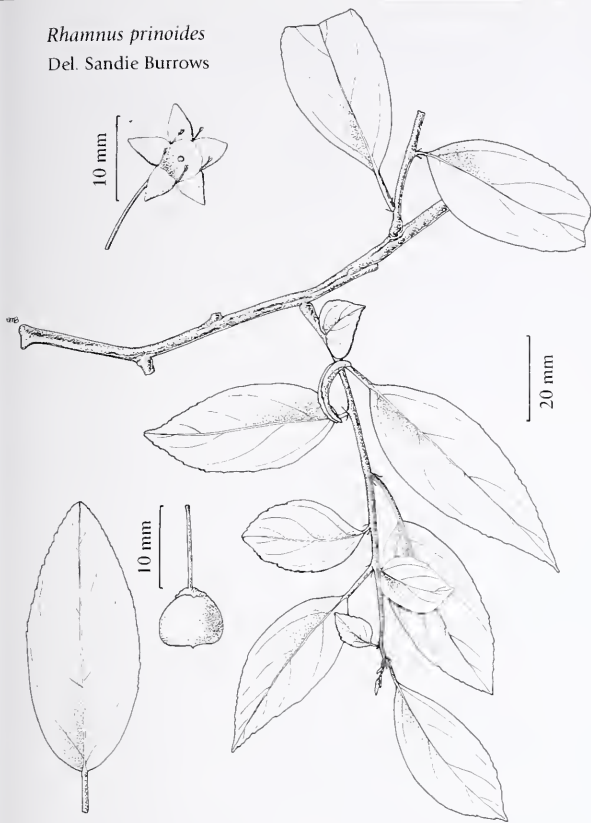
Alchemilla kiwuensis Engl.

Perennial herb with usually a persistent basal rosette of leaves, often stoloniferous; leaves roundish, 5- to 9-lobed, lobes deep, more than half the radius of the leaf, white hairy on both surfaces; flowers and fruit very small, in short terminal clusters; in upland wet grassland, forest margins, and near streams; 1,200–2,100 m. Zimbabwe to Cameroon and Kenya.

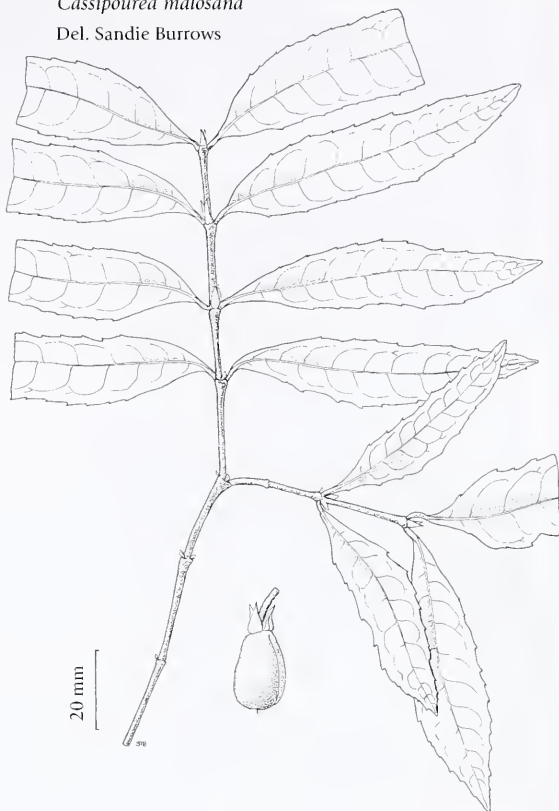
Source. *Flora zambesiaca* 4: 32 (1978).

Malawi. Nyika Plateau, road down from Nyika Rest House, 1,800 m, 1959,

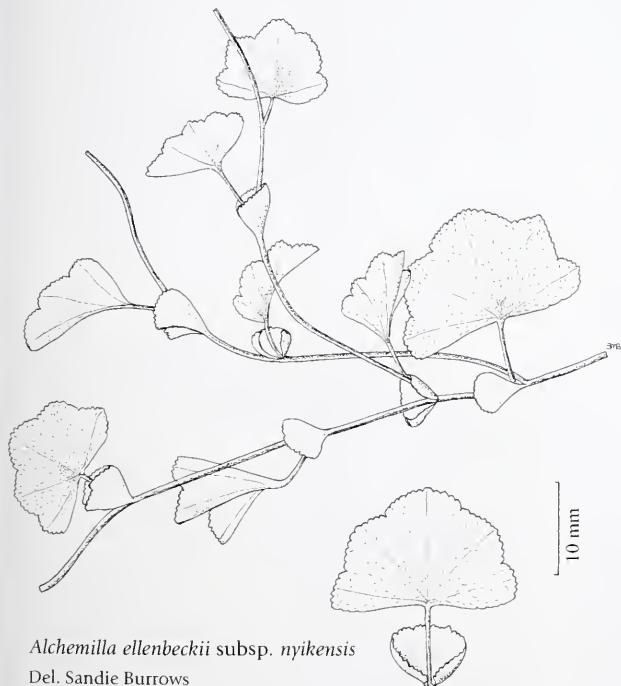
Rhamnus prinoides
Del. Sandie Burrows



Cassipourea malosana
Del. Sandie Burrows



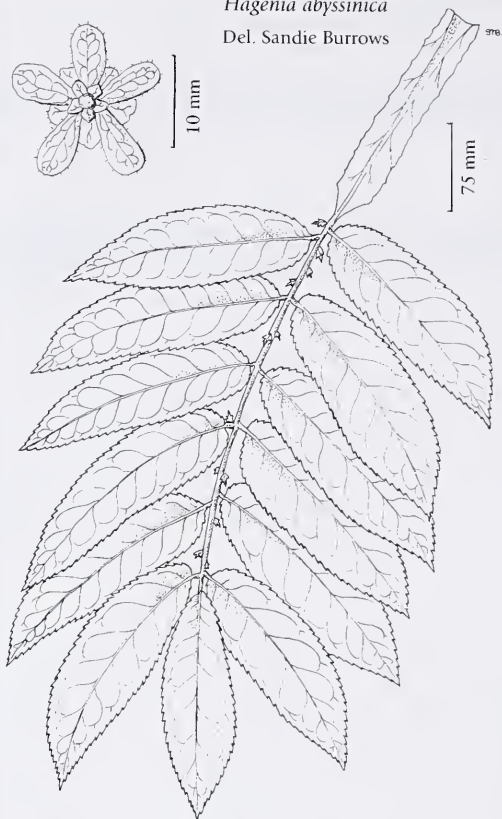
Cliffortia nitidula
Del. Sandie Burrows



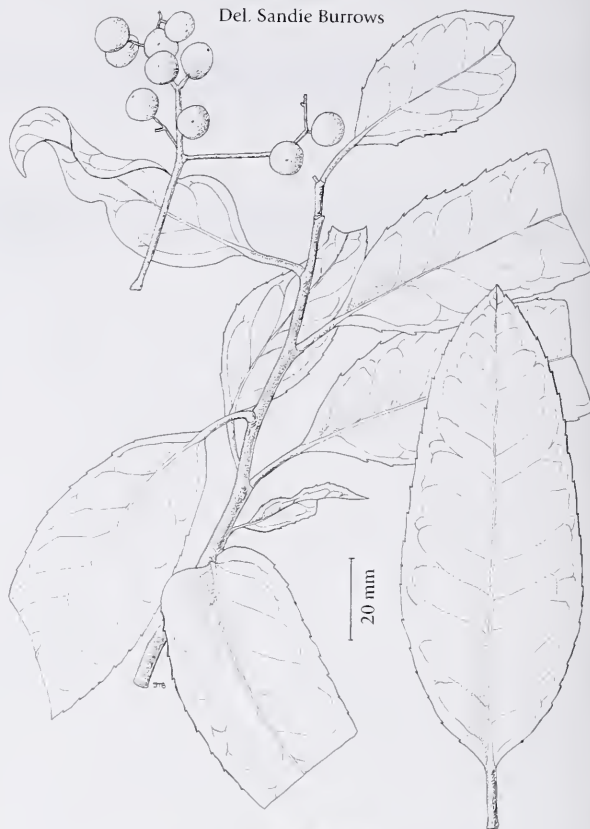
Alchemilla ellenbeckii subsp. *nyikensis*
Del. Sandie Burrows



Hagenia abyssinica
Del. Sandie Burrows



Prunus africana
Del. Sandie Burrows



Rubus chapmanianus
Del. Victoria Goaman



Agathisanthemum
globosum
Del. Sandie Burrows

Richards 10534 (EA, K).

Zambia. Nyika Plateau, without precise locality, 1962, *Fanshawe* 7265 (K); 2.5 miles S.W. from Rest House, 2,100 m, 1959, *Robson & Angus* 270 (K).

Cliffortia nitidula (Engl.) R.E.Fr. & T.C.E.Fr. ✧

Cliffortia linearifolia sensu White et al. (2001).

Ericoid shrub with erect branches to 3 m tall; leaves 3-foliate, often clustered on short side-shoots, leaflets to 9 x 1 mm, glabrous; flowers axillary, very small, lacking petals; along stream banks in montane grassland, in montane scrub, and forest margins above 1,750 m. South Africa to Angola, D.R.C., and Tanzania.

Malawi. Nyika National Park, Blue Heather Hill, 8,000', 1975, *Phillips* 574 (K, MO); Chelunduo Stream at Chelinda Camp, 2,200 m, 1958, *Robson & Angus* 387 (K).

Zambia. Nyika Plateau, without precise locality, 1962, *Fanshawe* 7321 (FHO, K, SRGH).

Hagenia abyssinica (Bruce) J.F.Gmel. ✧

hagenia; *Chichewa*: mkwerete; *Tumbuka*: mkwale

Round-crowned evergreen tree, branchlets densely hairy, bark rough, shaggy; leaves pinnate, petiole widely winged by the fused stipules; flowers in dense pendulous clusters, pinkish; a fast-growing pioneer tree of montane areas above 2,000 m throughout the upland regions of eastern Africa, from northern Malawi to Ethiopia. It is easily killed by fire and where it grows at the edge of an evergreen forest, it shows that fire is not eating away at the forest and that the trees are recolonising the surrounding grassland. It is thought that the rooting of bush pigs for food along the forest edge may create suitable seed-beds for young *Hagenia* trees.

Malawi. Nyika National Park, Chelinda Camp, 2000, *Burrows & Burrows* 6861 (PRE); Mwenembwe, 1952, *Chapman* 61 (White et al. 2001); 4 km N.W. of Muzengapakweru, by tributary of Wowwe River, 2,200 m, 1972, *Synge* 302 (K).

Zambia. Nyika Plateau, without precise locality, 1965, *Lees* 96 (K); Chowo Forest, 7,100', 1977, *Pawek* 13199 (K, MAL, MO, SRGH, UC).

Prunus africana (Hook.f.) Kalkman ✧

Pygmeum africanum Hook.f.

red stinkwood; *Chichewa*: dadzi; *Yao*: msisita, mkunu; *Tumbuka*: mzumira

Evergreen or semi-deciduous tree to 25 m tall with dark blackish brown, very rough bark; leaves alternate, 60–110 mm long, shiny dark green above, glabrous, margins serrate; flowers in racemes, smallish, creamy-white; fruit 5–8 x 8–12 mm, slightly fleshy, red or purplish when ripe; in montane forest, riverine forest at high altitudes, and rocky outcrops; 1,000–2,100 m. Widespread throughout the upland regions of Africa. The bark is valued for its medicinal properties and is used in Western medicine as a cure for prostate cancer.

Malawi. Nyika National Park, Juniper Forest Reserve, 2,000 m, 1982, *Chapman* 6316 (FHO); Wowwe headwaters, 1956, *Chapman* 296 (FHO).

Zambia. Nyika Plateau, Manyenjere and Chowo Forests, without collecting details (Dowsett-Lemaire 1985).

Rubus apetalus Poir.

Rubus exsuccus Steud. ex A.Rich.

Scrambling shrub to 1.5 m high, stems green-brown, sparsely hairy and prickly; leaves 3-foliate or imparipinnate with 2–3 pairs of leaflets, leaflets dull brownish green and hairy on both sides; flowers with the petals almost always absent; fruit or berries purplish black when ripe, edible; in montane scrub and forest margins; 760–2,130 m. Widespread in Africa from South Africa to Ethiopia and Gabon; also on the Mascarene Islands.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); nr Zambian Rest House, 2,150 m, 1958, *Robson* 408 (White et al. 2001).

Zambia. Nyika Plateau, 1.6 km N. of Rest House, 1955, *Lees* 92 (K).

Rubus chapmanianus Kupicha ✧

Scrambling shrub (bramble) climbing to 3.5 m, stems densely hairy with hooked prickles; leaves imparipinnate with two pairs of leaflets or 3-foliate, leaflets hairy, the hairs glistening; flowers with or without white petals; fruit or berries red or black; in dense deciduous woodland, near streams in

moist valleys. Zambia (Nyika only), Malawi, Tanzania, and Uganda.

Source. *Flora zambesiaca* 4: 19 (1978).

Malawi. Nyika Plateau, near Nganda Hill, 1962, *Tyrer* 800 (BM, SRGH).

Zambia. Nyika Plateau, without precise locality, 1962, *Fanshawe* 7364 (K); 2.5 miles S.W. of Rest House, 2,100 m, 1958, *Robson & Angus* 262 (K).

***Rubus ellipticus** Sm.

Himalayan raspberry

Shrub (bramble) with erect or ascending canes to 5 m long, stems densely covered with stiff straight reddish bristles to 5 mm long; flowers pinkish-white; fruit yellow, orange when ripe, edible. Introduced from Asia via Zomba Botanic Garden, now naturalised on Zomba Plateau and elsewhere in Malawi. A serious invader plant, forming impenetrable thickets; must be eradicated wherever found.

Malawi. Nyika Plateau, Kaziwiziwi River, 4,500', 1959, *Richards* 10543 (White et al. 2001); between Chisanga Falls and Kaperekezi Gate, 2000, *Salubeni & Mwanyambo* 6836 (MAL).

Rubus iringianus C.E.Gust.

Low-growing shrub (bramble) with creeping stems; leaves 3-foliate or simple, lower surface with hairs along the nerves; flowers white; fruit or berries orange; among bracken and grasses in grassland. N. Malawi, Tanzania, and Kenya. Nyika represents the only locality for this species in the *Flora zambesiaca* area.

Source. *Flora zambesiaca* 4: 15 (1978); Brummitt (1976: 168).

Malawi. Nyika Plateau, N.W. slopes of Nganda, 2,350 m, 1972, *Brummitt & Synge* 45 (K, MAL); Mpopoti, 2000, *Thera* 3048 (MAL).

Rubus kirungensis Engl.

Scrambling shrub (bramble) to 2 m tall, stems reddish, sometimes whitish, very prickly; leaves imparipinnate with 2–3 pairs of leaflets, or 3-foliate or simple, leaflets leathery, almost hairless; flowers white or pink; fruit or berries black when ripe; in montane scrub or forest by streams. Malawi, Tanzania, and Uganda.

Source. *Flora zambesiaca* 4: 20 (1978).

Malawi. Nyika, without precise locality, 1962, *Fanshawe* 7268 (FHO, K).

***Rubus niveus** Thunb.

Mysore raspberry, Java bramble

Shrub (bramble) to 2 m high, stems distinctively white; leaves imparipinnate with 2–3 pairs of markedly pleated leaflets, whitish below; flowers pale pink; fruit purplish when ripe; in grassland and around habitation. Native to India, China, and Indonesia. An escapee from cultivation and a serious invader plant; must be eradicated wherever found.

Source. *Flora zambesiaca* 4: 14 (1978).

Malawi. Nyika Plateau, Chelinda Camp, by Chalet 3, 1970, *Brummitt* 10906 (K, LISC, MAL, PRE, SRGH).

Rubus pinnatus Willd.

Robust scrambling shrub to 3.5 m high, stems shiny reddish brown, sometimes with a whitish bloom; leaves imparipinnate with 2–4 pairs of leaflets, leaflets with sharply toothed margins; flowers pink to mauve; fruit (berries) red or orange when ripe; in forest clearings, moist gullies, and forest margins; 1,100–2,230 m. Widespread in southern and tropical Africa; also on St. Helena and Ascension Island.

Zambia. Nyika Plateau, Chowo Forest, 1967, *Richards* 22543 (K, LISC, UZL).

Rubus rigidus J.E.Sm.

Scrambling shrub (bramble) 1–3.5 m high; leaves dark green above, whitish below; flowers pale pink to purple; fruit or berries deep orange when ripe; roadsides, stream banks, and forest margins; 1,040–2,200 m. Widespread in tropical Africa. Placed in synonymy under *R. apetalus* by Lebrun & Stork (1992), but easily distinguished from the former by the whitish undersurface of the leaves.

Source. *Flora zambesiaca* 4: 15 (1978).

Malawi. Nyika Plateau, road to Chelinda, 1959, *Richards* 10516 (K); Dembo Bridge, 2000, *Kasakula* 226 (LMA, MAL, SRGH).

Zambia. Nyika Plateau, ca 4 km S.W. of Rest House, 1958, *Robson & Angus* 266 (LISC).

Agathisanthemum globosum (Hochst. ex A.Rich.) Bremek. ✧

Agathisanthemum quadricostatum Bremek. var. *pubescens* Bremek.

Erect herb to 1.2 m tall, stems sparsely branched, densely hairy; leaves opposite, entire, elliptic, sessile, 2.5–80 × 2–3 mm, hairless or hairy or scabrid, with several dwarf leaves in axils; flowers small, in dense roundish heads, white yellowish to purple; in grassland, *Brachystegia* woodland; 975–1,800 m. Zimbabwe to Gabon and Ethiopia.

Malawi. Nyika National Park, path to Chisanga Falls, 2000, *Willis 10* (MAL, PRE, UZL).

Amphiasma luzuloides (K.Schum.) Bremek. ✧

Oldenlandia luzuloides K.Schum.

Erect perennial herb to 500 mm high; leaves opposite, entire, linear, 10–40 × 1–3 mm, erect; flowers in terminal heads, whitish tinged lavender; in grassland or scrub or forest margins; 1,670–2,280 m. N. Malawi and Tanzania.

Source. *Flora zambesiaca* 5(1): 113 (1989).

Malawi. Nyika Plateau, Chosi, 1976, *Phillips 1509* (K, MO); Zungwara Road, 2000, *Burrows & Burrows 6883* (MAL, PRE, SRGH, UZL).

Type: Nyika Plateau, 1896, *Whyte* s.n. (B, holo.t; K, iso.).

Anthospermum herbaceum L.f. var. *herbaceum*

Anthospermum lanceolatum Thunb.

Perennial straggly herb or many-stemmed shrublet, stems slender, 75 mm to 2.5 m tall; leaves opposite, entire, decussate, ovate to linear-lanceolate, 5–55 × 2–25 mm, hairy or glabrous or papillate, often distinctly discolorous; in scrub on forest margins, grassland, river margins; 450–2,300 m. South Africa to Ethiopia and Arabia.

Source. Brummitt (1973).

Malawi. Nyika Plateau, 3 km E. of Nganda, 1972, *Brummitt & Synge 91* (K, MAL, SRGH).

Zambia. Nyika Plateau, below Rest House, towards Rukuru Waterfall, 1958, *Robson 394* (BM, BR, K, LISC, PRE, SRGH).

Anthospermum ternatum Hiern subsp. *ternatum*

Short-lived herb to subshrub 0.2–1 m tall; leaves in whorls of 3 (rarely decussate or in whorls of 4), linear to needle-like, 6–25 × 0.8–1.2 mm, margins entire, strongly revolute; in miombo or related woodlands, often in open grassy or rocky places; 1,050–2,000 m. Zimbabwe to Angola, D.R.C., and Tanzania.

Malawi. Nyika National Park, Fingira Rock, 2000, *Willis & Luhanga 239* (PRE); Chisanga Falls, 2000, *Burrows & Burrows 6766* (MAL, PRE).

Anthospermum ternatum Hiern subsp. *randii* (S.Moore) Puff

Anthospermum randii S.Moore

Short-lived herb to subshrub 0.2–1 m tall; leaves in whorls of 3 (rarely decussate or in whorls of 4), ovate to linear-lanceolate, 12–45 × 1.5–6 mm, entire, hairy or not; in miombo or related woodlands, often in open grassy or rocky places; 950–2,100 m. Angola, Zambia, Zimbabwe, and Malawi.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979); Nyika National Park, N. Rukuru River, Domwe, 2000, *Salubeni & Mwanyambo 6795* (MAL).

Anthospermum usambarense K.Schum.

Anthospermum leuconeuron K.Schum.; *Anthospermum prittwitzii* K.Schum. & K.Krause; *Anthospermum keilii* K.Krause

As for *A. welwitschii*, but with leaves in whorls of three (mostly), 3–10 × 0.5–1.5 mm, ericoid in appearance; in forest edge scrub; 1,850–2,400 m. Sudan to Tanzania, with its southernmost locality on Nyika. Said to hybridise with *A. whyteanum* and *A. welwitschii*.

Source. *Flora zambesiaca* 5(1): 153 (1989).

Malawi. Nyika Plateau, ca 23 km S.E. on Kasaramba Road, 1976, *Pawek 11206* (K, MO); Zovochipolo area, 2000, *Burrows & Burrows 6792* (MAL, PRE).

Zambia. Nyika Plateau, without precise locality, 1966, *Fanshawe 9764* (K,

SRGH); near Rest House from Chowo Rocks, 6,000', 1960, *Chapman 734* (K, SRGH).

Anthospermum welwitschii Hiern

Dioecious shrub, usually single-stemmed, erect, 1–3 m tall; leaves opposite, strictly decussate, 10–35 × 1.5–3.5 mm, entire; flowers greenish yellow, very small, in tight clusters at the nodes among the leaves; at edge of scrub or forest or in stream bank vegetation; up to 2,000 m. South Africa to Angola and Kenya.

Source. *Flora zambesiaca* 5(1): 152 (1989).

Zambia. Nyika Plateau, without precise locality, 1962, *Fanshawe 7385* (K); near Rest House, 2,150 m, 1980, *Dowsett-Lemaire 91* (K).

Anthospermum whyteanum Britten ✧

Anthospermum albobirtum Mildbr.

Dwarf many-stemmed shrub, suberect or rounded and low, 0.2–0.8 m high; leaves in whorls of 3, 3–11 × 0.8–4 mm, both surfaces densely covered in white hairs; flowers in clusters at nodes, very small, greenish yellow to pale yellow; mostly on rocky outcrops; 1,250–2,500 m. Zimbabwe, Mozambique, Malawi, Zambia, and S. Tanzania.

Source. *Flora zambesiaca* 5(1): 155 (1989).

Malawi. Nyika Plateau, at Chelinda Bridge, 1974, *Pawek 7935* (K, MAL, MO, SRGH); Chosi Hill, 2000, *Burrows & Burrows 6744* (MAL, PRE, UZL).

Canthium oligocarpum Hiern subsp. *captum* (Bullock) Bridson ✧

Small to large tree 1.5–20 m tall, armed with paired spines; leaves opposite, entire, elliptic to elliptic-oblong, 30–145 × 15–60 mm, strongly discolorous, tertiary nerves obscure, domatia hairy; flowers axillary, in several-flowered pedunculate cymes; fruit distinctly bilobed; in evergreen rain-forest; 1,300–2,100 m. Mozambique, Malawi, and Tanzania.

Source. Dowsett-Lemaire (1985: 338).

Malawi. Nyika Plateau, eastern escarpment, *Dowsett-Lemaire 775* (herbaria not stated); Mwenembwe, *Chapman 2026* (herbaria not stated).

Chassalia parvifolia K.Schum. ✧

Bushy shrub or small tree 2–7 m tall; leaves opposite, on longish petioles 20–110 mm long, elliptic to obovate-oblong, 10–130 × 5–52 mm, hairless, margins entire; flowers in terminal branched clusters, white to greenish white; fruit translucent greenish yellow or pink, turning black; in montane forest, sometimes riparian; 1,280–2,220 m. S. Malawi and northern Zambia to Kenya.

Source. Dowsett-Lemaire (1985: 338).

Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests, *Dowsett-Lemaire*, without linked specimen (herbaria not stated).

Zambia. Nyika Plateau, upper slopes of Kangampande Mountain (Chowo Forest), 1952, *White 2729* (FHO, K).

Coffea mufindiensis Bridson subsp. *lundaziensis* Bridson ✧

Coffea ligustroides sensu White (1962) and White et al. (2001), non *S.Moore* (1911)

Evergreen shrub to 4 m high, branchlets flattened, evenly pubescent; leaves opposite, 20–60 × 8–30 mm, entire, glabrous, midrib reddish below; flowers borne 1–2 per leaf axil, white, corolla tube 2.5–6 mm long; fruit orange to red, 8–10 mm diameter; in understorey in montane forest. The variety is endemic to the Lundazi/Nyika/Mafinga Mountains region.

Source. *Kew Bulletin* 41(2): 309 (1986).

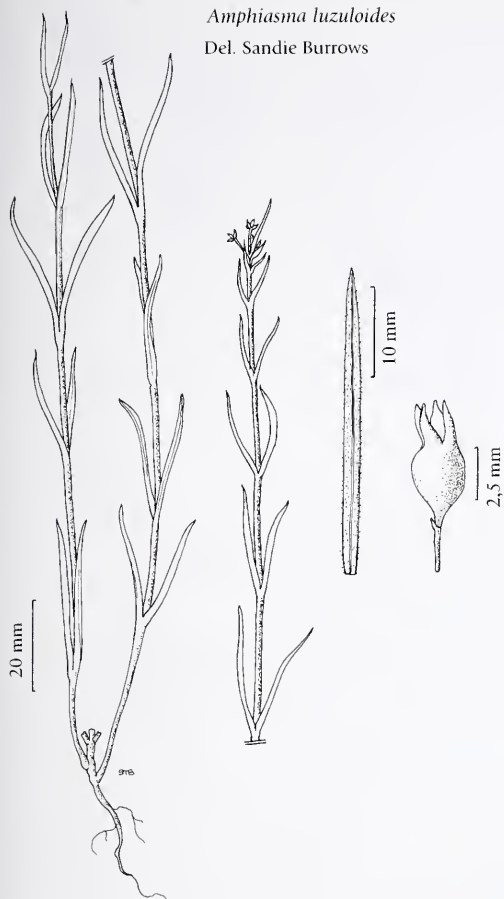
Malawi. Nyika Plateau, Zovochipolo, *Dowsett-Lemaire 88* (K); 2000, *Burrows & Burrows 6896* (K, MAL).

Zambia. Nyika Plateau, near source of Chire River, 2,000 m, 1952, *White 2718* (FHO, K, NDO).

Fadogia cienkowski Schweinf. var. *cienkowski*

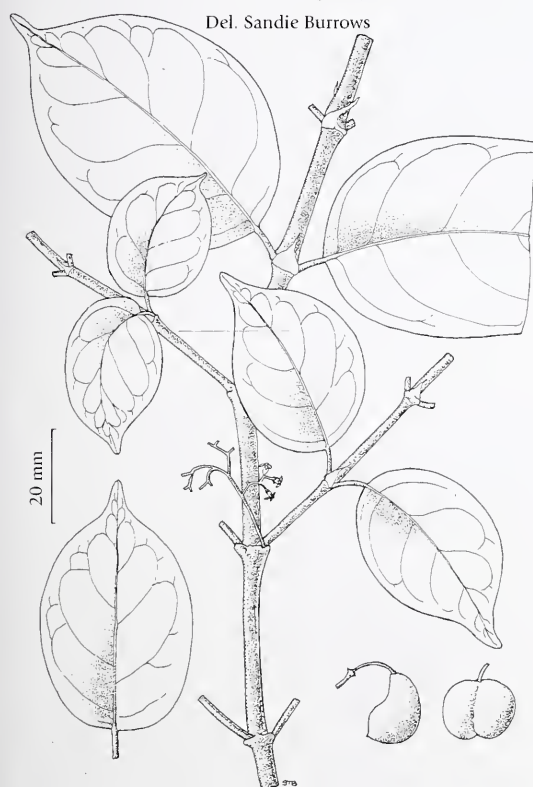
Erect suffrutescent 0.3–1.2 m tall with unbranched stems; leaves in whorls of 3–4, entire, 20–85 × 5–45 mm, narrowly to broadly elliptic or lanceolate, distinctly discolorous, hairy beneath; fruit dark green turning glossy black,

Amphiasma luzuloides
Del. Sandie Burrows

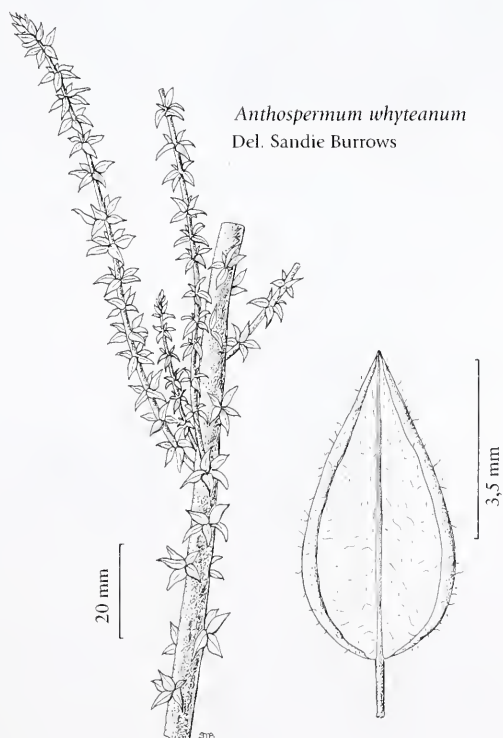


Chassalia parvifolia
Del. Maureen Church

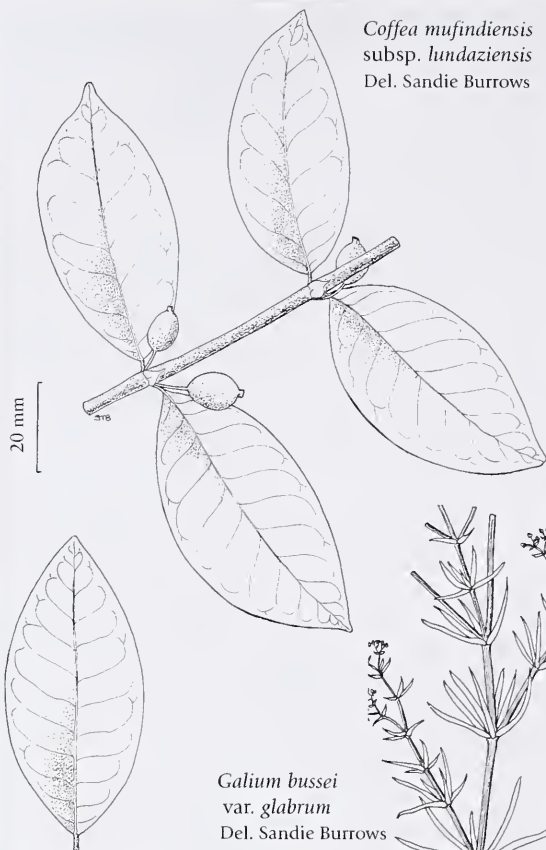
Canthium oligocarpum subsp. *captum*
Del. Sandie Burrows



Anthospermum whyteanum
Del. Sandie Burrows



Coffea mufindiensis
subsp. *lundaziensis*
Del. Sandie Burrows



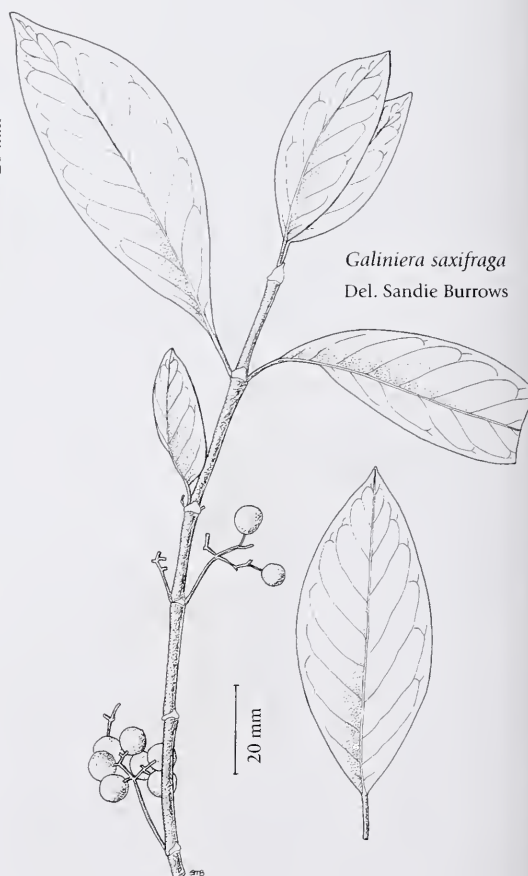
Fadogia stenophylla
subsp. *odorata*
Del. Maureen Church



Galium bussei
var. *glabrum*
Del. Sandie Burrows



Fadogiella stigmatoloba
Del. Maureen Church



Galiniera saxifraga
Del. Sandie Burrows

to 10 mm diameter, crowned with the persistent calyx; in grassland, wooded grassland, various types of woodland, by dambos, and on rocky outcrops; 600–1,740 m. Zimbabwe to Nigeria and Ethiopia.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

***Fadogia homblei* De Wild.**

Fadogia monticola Robyns

Erect suffrutescent 0.3–1.2 m high with reddish 4-angled stems; leaves entire, in whorls of 3–5, 22–120 × 3–38 mm, narrowly elliptic to lanceolate, whitish below with very small hairs; fruit 6–10 mm diameter, black, crowned with the persistent calyx; in miombo woodland, in *Protea* grassland, termite mounds, etc., 1,050–1,800 m. South Africa to Angola and S. Tanzania.

Source. *Flora zambesiaca* 5(2): 268 (1998).

Malawi. Rumph District, Kaziwiziwi River (probably in Nyika National Park), 1959, *Richards 10557* (K).

***Fadogia stenophylla* Welw. ex Hiern subsp. *odorata* (K.Krause) Verdc. ✧**

Fadogia odorata K.Krause; *Fadogia stenophylla* Hiern var. *rhodesiana*

S.Moore; *Fadogia stolzii* K.Krause

Erect suffrutescent 60–400 mm tall; leaves entire, in whorls of 3–4, 10–65 × 4–28 mm, rounded elliptic to narrowly elliptic or oblanceolate, glabrous, rarely hairy, not discolorous; flowers borne near base of stems, sweet-scented; fruit red when ripe, 7–10 mm diameter, distinctly 2- to 3-lobed; in open grassland, dambos, over laterite, and various types of woodland; 1,250–2,150 m. Zimbabwe and Mozambique to Angola and D.R.C.

Malawi. Nyika Plateau, 8 km N.W. of Lake Kaulime, 2,040 m, 1970, *Brunnmitt 11934* (K); Fingira Rock Road, 7,000', 1977, *Pawek 12943* (K, MAL, MO).

Zambia. Nyika, without precise locality, 1962, *Fanshawe 7367* (K, NDO, UZL).

Fadogia triphylla* Baker var. *triphylla

Herb or suffrutescent to 220–500 mm high, stems unbranched or branched, quadrate to grooved; leaves entire, in whorls of 3–4, 30–85 × 12–48 mm, ovate to broadly or narrowly elliptic, glabrous, not discolorous; flowers fragrant; fruit dark bluish green turning black, 10 mm diameter; various types of woodland and wooded grassland, sometimes over laterite; 540–1,900 m. Mozambique to Angola, Cameroon, and Tanzania.

Source. *Flora zambesiaca* 5(2): 276 (1998).

Malawi. Nyika Plateau, Makanga, 1976, *Phillips 857* (K, MO); Nyika National Park, Thazima Gate, 2000, *Burrows & Maroyi 6809* (MAL, PRE, UZL).

***Fadogia triphylla* Baker var. *giorgii* (De Wild.) Verdc.**

As for *F. triphylla* var. *triphylla*, but with the stems, leaves, and inflorescences shortly hairy; 750–1,900 m. Malawi, Zambia, D.R.C., and Tanzania. First record for Malawi (N.).

Source. *Flora zambesiaca* 5(2): 277 (1998).

Malawi. Nyika National Park, Chisanga Falls, 2000, *Burrows & Burrows 6769* (MAL, PRE, UZL).

***Fadogiella stigmatoloba* (K.Schum.) Robyns ✧**

Erect suffrutescent 0.5–1.5 m tall, from a woody rootstock, stems and leaves velvety; leaves entire, paired or rarely in 3s, 17–80 × 5–45 mm, very discolorous; flowers in axillary clusters; fruit roundish, 3- to 5-lobed, 7.5–13 mm diameter; in several woodland types, also grassland in dambos, and on termite mounds; 900–1,900 m. Malawi, Zambia, Angola, D.R.C., and S. Tanzania. Nyika is possibly this species' southern limit.

Source. *Flora zambesiaca* 5(2): 282 (1998).

Malawi. Nyika Plateau, 30.5 km N. of M1, 1977, *Pawek 13332* (K, MAL, MO); Chisanga Falls, 2000, *Burrows & Burrows 6763* (MAL, PRE, UZL).

Zambia. Between waterfall on N. Rukuru River and Apoka Village, 6.6 km N. of Rest House, 1958, *Robson & Angus 466* (BM, K, LISC, SRGH).

***Galiniera saxifraga* (Hochst.) Bridson ✧**

Galiniera coffeoides Del.

Shrub or small tree 2–14 m tall; leaves opposite, entire, glabrous above, nerves densely hairy beneath; fruit red or purple-brown, 7–9 mm in diam-

eter; in understorey on montane forest; 1,700–3,000 m. Zambia and Malawi to Ethiopia.

Malawi. Nyika Plateau, Zovochipolo Forests (Dowsett-Lemaire 1985: 388); Nyamkowa, evergreen forest, 2,000 m, 1978, *Pawek 13847* (K, MAL, MO, SRGH, UC).

Zambia. Nyika Plateau, Manyenjere and Chowo Forests (Dowsett-Lemaire 1985: 388); without locality, 1962, *Fanshawe 7381* (K).

***Galium bussei* K.Schum. var. *bussei* Brenan**

Perennial herb from woody rootstock, stems erect to 0.6 m high; leaves in whorls of 6–10, linear, 15–30 × 0.5–1.5 mm, 1-nerved, upper surface with white hairs and small prickles, with a distinct filiform acumen at the apex; inflorescence dense, many-flowered, flowers yellow; in grassland and grassy places in miombo woodland, 1,200–2,600 m. Zimbabwe to Tanzania.

Source. *Flora zambesiaca* 5(1): 199 (1989).

Malawi. Nyika Plateau, Nganda Peak, 1969, *Pawek 2076* (K, MAL); Chosi Hill, 2000, *Burrows & Burrows 6740* (MAL, PRE, SRGH, UZL).

Zambia. Nyika Plateau, near Rest House, 1955, *Lees 125* (K).

***Galium bussei* K.Schum. var. *glabrum* Brenan ✧**

Differs from var. *bussei* in having glabrous leaves and stems; grassy places in woodland, sometimes in disturbed areas. Zimbabwe to Tanzania.

Source. *Flora zambesiaca* 5(1): 199 (1989).

Malawi. Nyika National Park, Fingira Rock, 2000, *Willis & Luhanga 237* (PRE).

Zambia. Nyika Plateau, near Rest House, 1955, *Lees 125* (K).

***Galium bussei* K.Schum. var. *strictius* Brenan**

Differs from var. *bussei* and var. *glabrum* in the stems (at least on the angles) and under surface of the leaves being covered in short, more or less spreading white hairs; in grassland and wooded grassland; 1,000–2,300 m. Malawi and S. Tanzania.

Source. *Flora zambesiaca* 5(1): 200 (1989).

Malawi. Nyika Plateau, Lake Kaulime, 1959, *Richards 10535* (K); Mwenembwe turn-off, 2000, *Burrows & Burrows 6914* (K, MAL, PRE).

***Galium chloroionanthum* K.Schum.**

Chichewa: kanika

Perennial climbing or straggly herb to 2.3 m high, stems and leaf margins covered in prickles ('Velcro'); leaves in whorls of 6, 1-nerved, elliptic to obovate, 25–35 × 7–12 mm, upper surface more-or-less hairless; flowers subtended by 1–4 bracts; fruit covered in brown, densely packed hooked hairs; mostly in forest edge vegetation; 1,800–2,250 m. Zimbabwe to E. Africa; also in Madagascar.

Source. *Flora zambesiaca* 5(1): 198 (1989).

Malawi. Nyika Plateau, below Sangule Kopje, 7 km S.W. of Chelinda Camp, 1970, *Brunnmitt 10769* (BR, K, SRGH).

***Galium scabrellum* K.Schum.**

Galium bequaertii De Wild.

Scrambling or climbing perennial; leaves in whorls of 6–10, 1-nerved, 10–15 × 1–2 mm, with a few hairs, prickles along margins and on midrib below; inflorescence many-flowered, flowers yellow; fruit mostly glabrous; on forest edges, in clearings or bush clumps; 1,700–2,300 m. Zimbabwe to Uganda and D.R.C. Type from Nyika.

Source. *Flora zambesiaca* 5(1): 198 (1989).

Malawi. Nyika Plateau, without precise locality, 6,000'–7,000', 1896, Whyte ('Carson') 269 (B, holo., K, NU, WU, photos); Mpopoti Peak, 2000, *Willis & Luhanga 79* (PRE); Dembo Bridge, 2000, *Kasakula 223* (LMA, MAL, SRGH).

Zambia. Nyika Plateau, without precise locality, 1962, *Fanshawe 7311* (BR, K); 2.5 miles S.W. of Rest House, 2,100 m, 1958, *Robson & Angus 265* (K).

***Galium spurium* L. subsp. *africanum* Verdc.**

Annual climbing or scrambling herb; leaves entire, in whorls of 6–8, 1-nerved, 15–40 × 2–6 mm, narrow, sharp-pointed, midrib and margins set with small hooked prickles; flowers mostly single, greenish to creamy white; fruit covered with white hooked hairs; along streams and forest margins; 1,800–2,300 m. Throughout eastern Africa.

Source. *Flora zambesiaca* 5(1): 198 (1989).

Malawi. Nyika National Park, near Juniper Forest Reserve, 2000, Burrows & Burrows 6932 (MAL, PRE, UZL).

***Galium thunbergianum* Eckl. & Zeyh. var. *hirsutum* (Sond.) Verdc.**

Rhizomatous perennial herb; leaves in whorls of 4, 3-nerved, ovate to elliptic, entire, without prickles, but with fine short hairs; inflorescence in many-flowered cymes, flowers very small, greenish white to yellowish; fruit densely covered with white hooked hairs; in damp shady places in forest and montane scrub, often near streams; 1800–2,300 m. African mountains, quite disjunct. First record for Malawi.

Source. *Flora zambesiaca* 5(1): 196 (1989)

Malawi. Nyika National Park, Nganda Hill, 2000, Burrows & Burrows 6848 (MAL, PRE, UZL).

***Gardenia subacaulis* Stapf & Hutch.**

Geophytic subshrub (suffrutescent); flowers appearing just above ground level, large, white to yellow, sweetly scented; in open grassland and miombo woodland; 780–1,950 m. Malawi (type), Mozambique, Zambia, Rwanda, and Tanzania. Closely related and almost identical (apart from its habit) to *G. ternifolia* subsp. *jovis-tonantis*.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979); Luvazi Marsh, 4,100', *Phillips* 629 (K).

***Gardenia ternifolia* Schumach. & Thonn. subsp. *jovis-tonantis* (Welw.) Verdc. var. *goetzei* (Stapf & Hutch.) Verdc. ❖**

Small tree to 6 m; often stunted and gnarled, bark smoothish, flaking to a brownish or yellowish powdery undersurface; leaves opposite, entire, clustered at twig ends, oblanceolate to obovate; flowers white, showy, sweetly scented; fruit roundish, woody, grey; in various types of woodland; 250–2,100 m. Throughout tropical Africa.

Source. *F.T.E.A. Rubiaceae* (2): 508 (1988).

Malawi. Nyika National Park, Thazima Gate, 2000, Burrows & Maroyi 6821 (MAL).

***Hedythyrus thamnoideus* (K.Schum.) Bremek. ❖**

Subshrub 0.15–2.0 m high with numerous short axillary branches; leaves opposite, narrowly elliptic to lanceolate, entire, 8–20 × 2.5–8 mm, glabrous or with a few hairs on the margins, whitish silvery below; flowers in terminal heads, white, pink or pale lilac; in moist montane forest, scrub or grassland; 1,950–2,400 m. N. Zambia, N. Malawi, and Tanzania.

Source. *Flora zambesiaca* 5(1): 107 (1989).

Malawi. Nyika Plateau, Kasaramba View Road, 1971, Pawek 5029 (K, MAL).

***Heinsenia diervilleoides* K.Schum. subsp. *diervilleoides* ❖**

Aulacocalyx diervilleoides (K.Schum.) E.M.A.Petit

Shrub or small understorey tree 3–12 m tall; leaves opposite, entire, red when young; flowers bell-shaped, white, spotted pink inside; fruit round, slightly hairy, calyx persistent; in montane forest; 900–2,400 m. Zimbabwe to D.R.C. and Sudan.

Source. *F.T.E.A. Rubiaceae* (2): 730 (1988).

Malawi. E. Nyika, without locality or collector (White *et al.* 2001).

***Hymenodictyon floribundum* (Hochst. & Steud.) B.L.Rob. ❖**

Chichewa: chimbir; *Tumbuka*: munakalabwe

Small gnarled tree to 6 m tall; leaves opposite, elliptic to obovate, 50–180 × 20–115 mm, entire, hairy or not, with brilliant coppery autumn colours; inflorescence an elongated terminal spike 6–220 mm long, flowers reddish, sweetly scented; on rocky hills or rocky banks of streams; 540–2,250 m. Zimbabwe northwards through most of tropical Africa.

Source. Dowsett-Lemaire (1985: 388).

Malawi. Nyika Plateau, below N. Rukuru waterfalls, Dowsett-Lemaire, without linked specimen (herbaria not stated, none at K); between Chisanga Falls and Kaperekezi Gate, 2000, *Salubeni & Mwanyambo* 6831 (MAL).

***Keetia zanzibarica* (Klotzsch) Bridson subsp. *cornelioides* (De Wild.) Bridson**

Scandent shrub, small tree or liane with glabrous to sparsely hairy young

stems; leaves opposite, entire, 50–150 × 20–75 mm, narrowly elliptic to ovate or roundish, entirely hairless, except for hairs on the veins below; flowers white, sweetly-scented; along river-banks, in evergreen riverine forest, sometimes forming thickets. Mozambique, Malawi, Zambia, and D.R.C. The record listed below was identified by Patel as *K. foetida* (Hiern) Bridson, a species confined to southern Malawi, but closely allied to *K. zanzibarica*; this record is therefore assumed to be a misidentification. The nearby record of *K. zanzibarica* subsp. *cornelioides* from Rumphu Gorge is added here to provide probable support for the Patel & Overton record.

Source. *Flora zambesiaca* 5(2): 367 (1998).

Malawi. Nyika National Park, Kasewerera, 2001, without collecting details (Patel & Overton 2002: 36); Rumphu District, ca 3 km E. of Rumphu Gorge, 1975, Pawek 9905 (K).

***Keetia gueinzii* (Sond.) Bridson ❖**

Canthium gueinzii Sond.; *Plectronia hispida* (Benth.) K.Schum.;

Plectronia gueinzii (Sond.) Sim

Chichewa: mluma, msukandalo, namansengo; *Tonga*: kombeba

Scrambling shrub or climber 3–25 m tall, the pale interpetiolar stipules prominent; leaves opposite, entire, oblong-lanceolate to ovate, 55–135 × 35–60 mm, sparsely hairy above, more densely below; flowers creamy white, in tight axillary clusters; in evergreen forest, thickets, and moist woodland; 800–2,200 m. South Africa (Eastern Cape) to Cameroon and Ethiopia.

Malawi. Nyika National Park, between Chisanga Falls and Kaperekezi Gate, 2000, *Salubeni & Mwanyambo* 6831 (MAL); Kasyaula and Zovochipolo Forests, Dowsett-Lemaire 71 (K) and 2,100–2,200 m, sterile scrap, Dowsett-Lemaire 72 (K); Juniper Forest, 2,350 m, 1975, Pawek 9953 (K);

Zambia. Nyika Plateau, Chowo Forest, 1967, Richards 22703 (K).

***Kohautia coccinea* Royle ❖**

Erect annual herb, branched or not, to 450 mm tall; leaves opposite, entire, linear to linear-lanceolate, 12–55 × 1.1–4 mm, margins and lower midrib papillate, lower surface scabrid to glabrous; flowers in leaf axils, red to pink, rarely lilac to white; in grassland and open woodland, also along roads and paths; 500–2,800 m. Zimbabwe northwards to W. Africa, Sudan, and Ethiopia; also in the Arabian Peninsula, Pakistan, and India.

Source. *Flora zambesiaca* 5(1): 94 (1989).

Malawi. Nyika National Park, Chipome Valley, 2001, without collecting details (Patel & Overton 2002: 36).

***Lasianthus kilimandscharicus* K.Schum. subsp. *kilimandscharicus* ❖**

Chichewa: nadala

Shrub or small tree 1.2–7.5 m high, bark smooth, grey; leaves opposite, 90–170 × 20–60 mm, margins entire, glabrous above, sparsely hairy below; flowers few, in compact axillary clusters, white or violet; fruit an intense cobalt blue; in swamp and riverine forest, also in *Widdringtonia* forest; 900–2,300 m. Zimbabwe to D.R.C. and Kenya.

Source. *Flora zambesiaca* 5(1): 43 (1989).

Malawi. Nyika Plateau, Mwenembwe Forest, 1981, Dowsett-Lemaire 264 (K).

***Lelya prostrata* (R.D.Good) W.H.Lewis var. *prostrata* ❖**

Lelya osteocarpa Bremek.

Prostrate herb with several stems up to 100 mm long radiating from a woody rootstock, stems and leaf petioles densely hairy; leaves opposite, 5–15 × 1–10 mm, elliptic to lanceolate, entire, hairy beneath; flowers small, 1–3 in leaf axils; on dry grassy hillsides, open woodland, burnt grassland, in grass tussocks; 1,500–2,250 m. N. Malawi, Zambia, Angola, D.R.C., and Nigeria. A monotypic genus.

Source. *Flora zambesiaca* 5(1): 118 (1989).

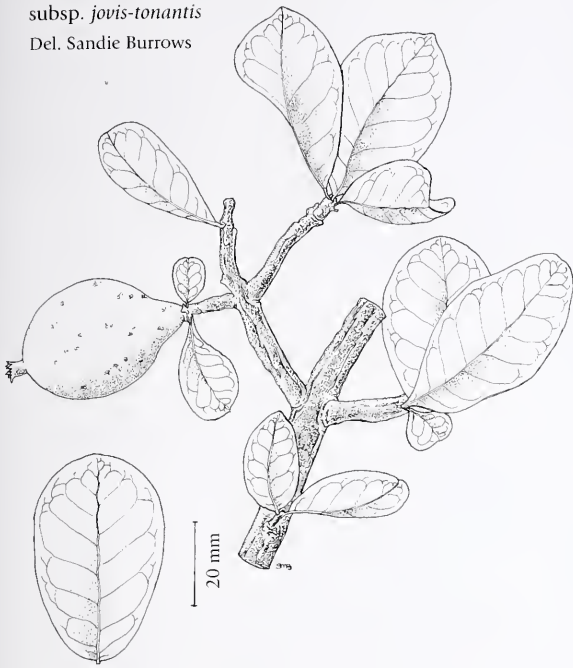
Malawi. Nyika Plateau, without precise locality, 1967, Richards 22487 (K, UZL).

***Lelya prostrata* (R.D.Good) W.H.Lewis var. *angustifolia* (Bremek.) W.H.Lewis**

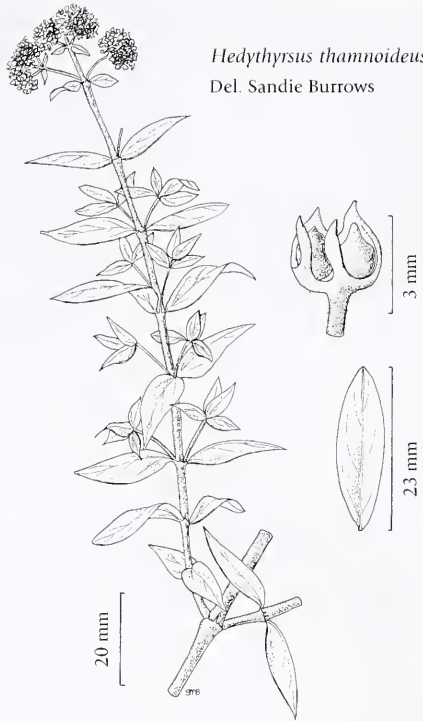
Lelya osteocarpa Bremek. var. *angustifolia* Bremek.

As for var. *prostrata*, but with the stems and petioles hairy or not, and the leaves narrowly to very narrowly elliptic, glabrous; mostly in dambos, also

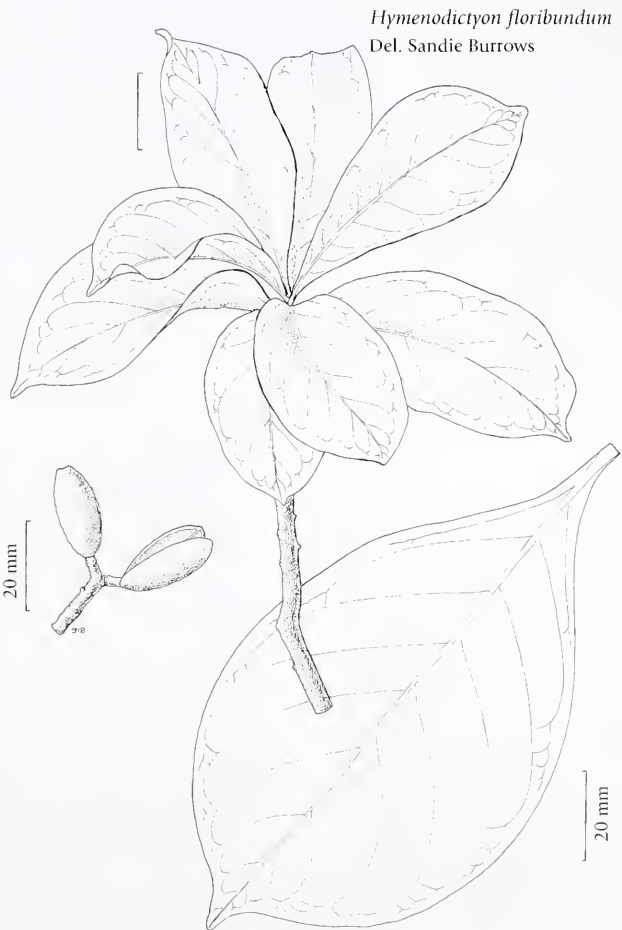
Gardenia ternifolia
subsp. *jovis-tonantis*
Del. Sandie Burrows



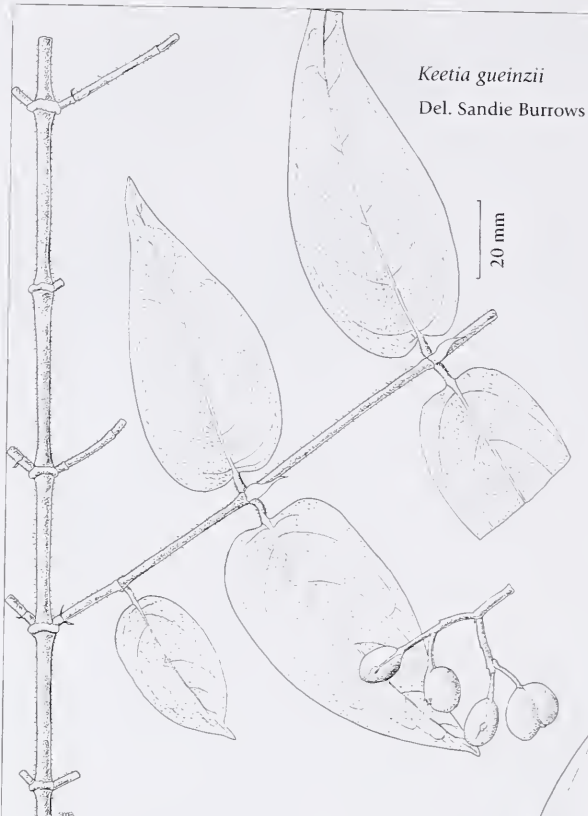
Hedythysus thamnoideus
Del. Sandie Burrows



Heinsenia diervilleoides
subsp. *diervilleoides*
Del. Maureen Church

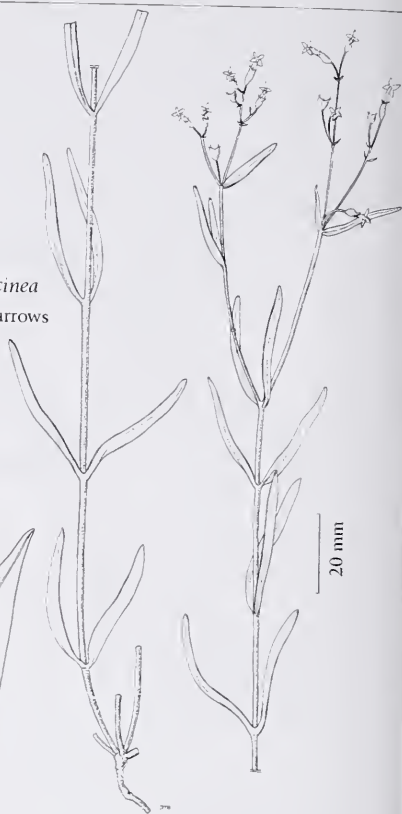


Hymenodictyon floribundum
Del. Sandie Burrows

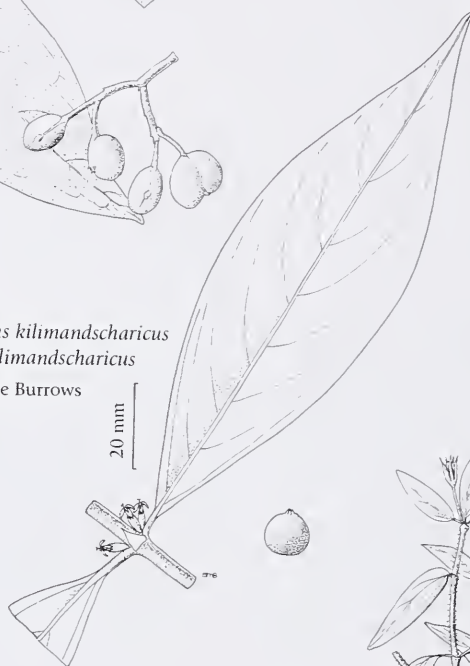


Keetia gueinzii
Del. Sandie Burrows

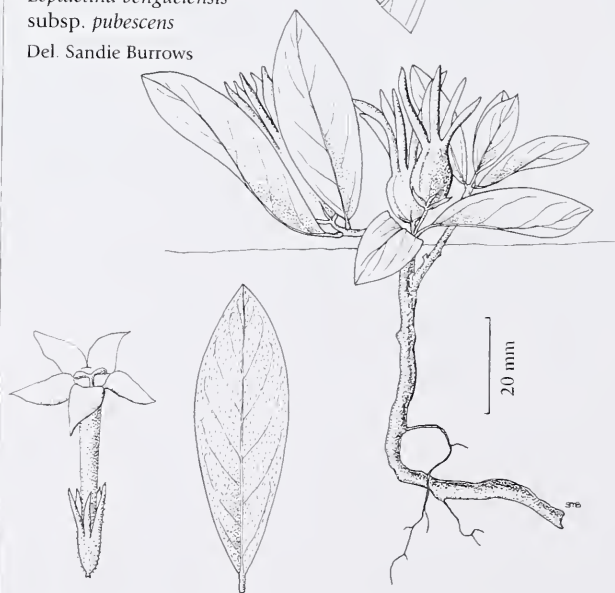
Kohautia coccinea
Del. Sandie Burrows



Lasianthus kilimandscharicus
subsp. *kilimandscharicus*
Del. Sandie Burrows



Leptactina benguelensis
subsp. *pubescens*
Del. Sandie Burrows



Lelya prostrata var. *prostrata*
Del. Sandie Burrows

in open woodland and frequently burnt grassland; 1,500–2,150 m. N. Malawi, Zambia and Tanzania.

Source. *Flora zambesiaca* 5(1): 118 (1989).

Zambia. Nyika Plateau, 3.2 km S.W. of Rest House, 1958, *Robson & Angus* 221 (BM, K, LISC).

***Leptactina benguelensis* (Benth. & Hook.f.) R.D. Good subsp. *pubescens* Verdc. ❖**

Mat- or cushion-forming suffrutescent; leaves opposite, elliptic to oblanceolate, 118–130 x 6–50 mm, glossy dark green above, densely hairy below; flowers white, with 4–5 narrow lobes, sweetly scented, showy; fruit bright red, fleshy, crowned with the long lobes of the persistent calyx; in miombo woodland, sometimes in rocky areas; 870–1,950 m. Zimbabwe to Angola and Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979); Nyika National Park, Thazima Gate, 2000, *Burrows & Maroyi* 6806 (MAL, PRE).

***Manostachya staelioides* (K.Schum.) Bremek. ❖**

Woody-based *Thesium*-like herb 0.4–0.9 m tall, with several erect stems; leaves in whorls 3–4 or paired, apparently verticillate, linear to subulate, 2–6 mm long, up to 0.5 mm wide, hairless; flowers minute, in tight axillary clusters; in grassland, chipya woodland, on dambo margins; ?1,500–2,250 m. Zambia and Malawi to Angola and S. Tanzania.

Malawi. Nyika Plateau, Chelinda Bridge, 7,500', *Pawek* 7889 (K).

***Multidentia crassa* (Hiern) Bridson & Verdc. var. *crassa* ❖**

Canthium crassum Hiern; *Craterispermum orientale* K.Schum.;

Craterispermum opimum S. Moore

Chicheva: machende a kalulu, mbilima, mviro; *Tumbuka*: mvilo, mvingomba

Shrub or small tree 3–6 m tall, bark very dark, peeling to a reddish undersurface; leaves opposite, entire, oblong-elliptic to roundish, 30–275 x 17–155 mm, thickly-textured, glabrous or hairy below, glaucous below; fruit brown with white spots, 30–40 mm diameter; in miombo or *Uapaca* woodland, sometimes on rocky outcrops. Zimbabwe to E. Africa. Variety to be determined.

Source. Brummitt (1973).

Malawi. Nyika Plateau, Sawi Valley, 1972, *Synge* 431 (K); N.E. of Nganda, 1,600 m, *Patel et al.* 5098 (K).

***Mussaenda arcuata* Lam. ex Poir. ❖**

Mussaenda laurifolia A. Chev.; *Mussaenda abyssinica* Chiov.

Tonga: kamtibi, mfukusa

Scrambling shrub or climber; flowers yellow with a reddish brown centre; in moist woodland and riverine forest. Widespread in tropical Africa.

Source. Brummitt (1973).

Malawi. Nyika Plateau, Chipome Valley, 1972, *Synge* 22 (K).

Oldenlandia angolensis* K.Schum. var. *angolensis

Short-lived perennial erect herb 150–600 mm tall with long, slender internodes; leaves opposite, narrowly elliptic to linear, 10–20 x 1–4.5 mm, entire, hairless or few hairs on margins; flowers in small, dense heads, white to dull mauve; in *Miscanthus* swamp edges, riverine marshes, muddy dambos; 1,160–2,250 m. Botswana and Zimbabwe to Cameroon and Uganda.

Source. *Flora zambesiaca* 5(1): 125 (1989).

Malawi. Nyika Plateau, Chelinda Bridge, 1970, *Pawek* 3424 (K).

***Oldenlandia echinulosa* K.Schum. var. *pellucida* (Hiern) Verdc.**

Oldenlandia pellucida Hiern var. *pellucida*

Weak, erect, mostly unbranched annual herb to 400 mm tall; leaves opposite, elliptic-lanceolate, 12–65 x 6–28 mm, margins entire, sparsely hairy above at first, hairless throughout later; flowers in axillary clusters, white or greenish, tube 3.2–4.5 mm long; damp rocks by rivers or streams, mossy banks or damp humus on cave floors; 600–1,800 m. Zimbabwe to Sierra Leone and Sudan.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

***Oldenlandia herbacea* (L.) Roxb. ?var. ❖**

Annual or perennial erect or spreading branched herb 15–600 mm tall; leaves opposite, linear to linear-lanceolate, 6–55 x 1–4 mm, hairless; flowers 1–2, axillary, on long slender stalks; in a wide variety of habitats, sometimes rocky or in marshy areas; 40–1,850 m. Widespread in Africa, also in Madagascar and Asia. The variety on Nyika yet to be confirmed.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

***Oldenlandia rosulata* K.Schum. var. *parviflora* Bremek.**

Slender erect annual herb to 350 mm tall; leaves opposite, basal leaves rosulate, spatulate to elliptic, 3–7 x 1.3–3 mm, stem leaves filiform to linear-lanceolate, glabrous; flowers axillary, single or to 3, on long stalks; grassland, dambos, woodlands; 1,260–2,300 m. N. Mozambique, Malawi, Zambia to Tanzania and Uganda.

Source. *Flora zambesiaca* 5(1): 130 (1989).

Malawi. Nyika Plateau, Businande Road, 1976, *Phillips* 1630 (K, MO).

***Otiophora caerulea* (Hiern) Bullock**

Several-stemmed perennial herb, erect 100–450 mm tall; from a large woody rootstock; leaves opposite, entire, decussate, elliptic-lanceolate to linear, 25–55 x 2–12 mm, mainly hairless; flowers blue to pinkish in terminal heads; open or wooded grassland, often seasonally wet; 1,220–2,130 m. Zambia and Malawi to Tanzania, D.R.C., and Angola.

Source. *Flora zambesiaca* 5(1): 147 (1989).

Malawi. Nyika Plateau, without precise locality, 1,830–2,130 m, 1896, *Whyte* 193 (K); Nyika National Park, Mwanda Mt., 2000, *Willis* 193 (MAL, PRE, UZL).

***Otiophora scabra* Zucc. subsp. *scabra* ❖**

Usually annual herb or shrublet to 1 m tall, stems with internodes 10–40 mm long; leaves opposite, entire, decussate, narrowly lanceolate, 15–90 x 2–20 mm, glabrous to densely hairy above; flowers small white to mauve, in a terminal spike to c. 150 mm long; in grassland or miombo woodland; 900–1,900 m. Zimbabwe to Angola, D.R.C., and Tanzania; also in Madagascar.

Source. *Flora zambesiaca* 5(1): 143 (1989)

Malawi. Nyika National Park, path to Chisanga Falls, 2000, *Burrows & Burrows* 6795 (MAL, PRE, UZL).

***Otiophora stolzii* (Verdc.) Verdc.**

Perennial tufted or cushion-forming herb to 200 mm high; leaves opposite, entire, decussate, elliptic to linear-lanceolate, 10–20 x 1.3–6 mm, glabrous or slightly hairy; flowers in a several-flowered terminal head, white, pink, lilac or pale blue; in grassland or rocky areas. Only known from Nyika in the *Flora zambesiaca* area; also in Tanzania and D.R.C. (Shaba).

Source. *Flora zambesiaca* 5(1): 147 (1989).

Malawi. Nyika Plateau, without precise locality, 2,400 m, 1961, *Robinson* 4502a (SRGH); Nyika National Park, Fingira Rock, 2000, *Willis & Luhanga* 218 (PRE).

Otiophora villicaulis* Mildbr. var. *villicaulis

Otiophora villicaulis var. *villosa* Verdc.; *Otiophora latifolia* Verdc.

Perennial tufted or cushion- or mat-forming herb with straggling decumbent hairy stems to 150 mm long; leaves opposite, entire, mostly ovate to round, 6–12(15) mm wide, slightly to densely hairy; flowers in a few-flowered terminal head, bluish lilac; in open or wooded grassland, often in disturbed places or firebreaks. Malawi and Zambia to Tanzania and Nigeria.

Source. *Flora zambesiaca* 5(1): 148 (1989).

Malawi. Nyika Plateau, near Nganda Peak, ca 2,240 m, 1974, *Pawek* 7912 (K, MO).

***Otiophora villicaulis* Mildbr. var. *iringensis* (Verdc.) Puff**

Otiophora parviflora var. *iringensis* Verdc.; *Otiophora latifolia* Verdc.

Perennial tufted or cushion- or mat-forming herb with straggling hairy stems to 150 mm long; leaves opposite, entire, mostly ovate-lanceolate to elliptic, 5–8 mm wide, mostly with a few hairs; flowers in a few-flowered terminal head, bluish lilac; in open or wooded grassland, often in disturbed places or firebreaks. Malawi and Zambia to Tanzania and Nigeria.



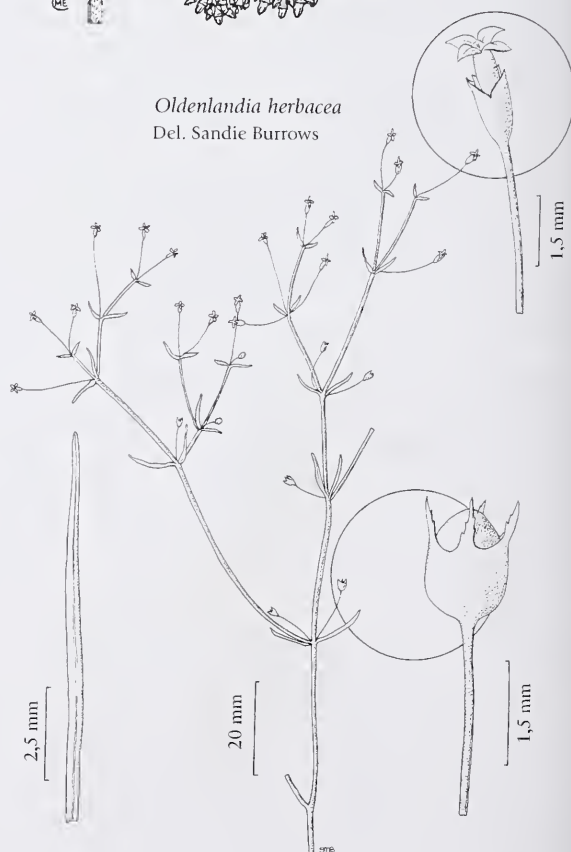
Manostachya staelioides
Del. Sandie Burrows



Multidentia crassa var. *crassa*
Del. Maureen Church

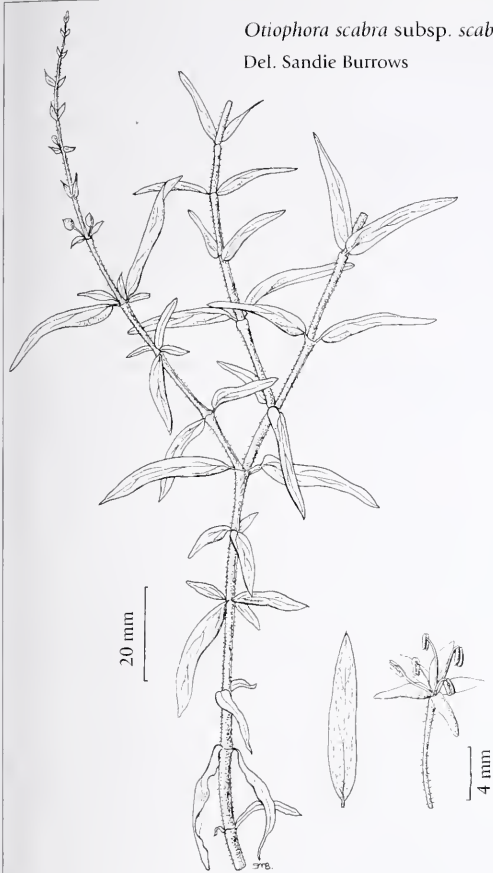


Mussaenda arcuata
Del. Sandie Burrows

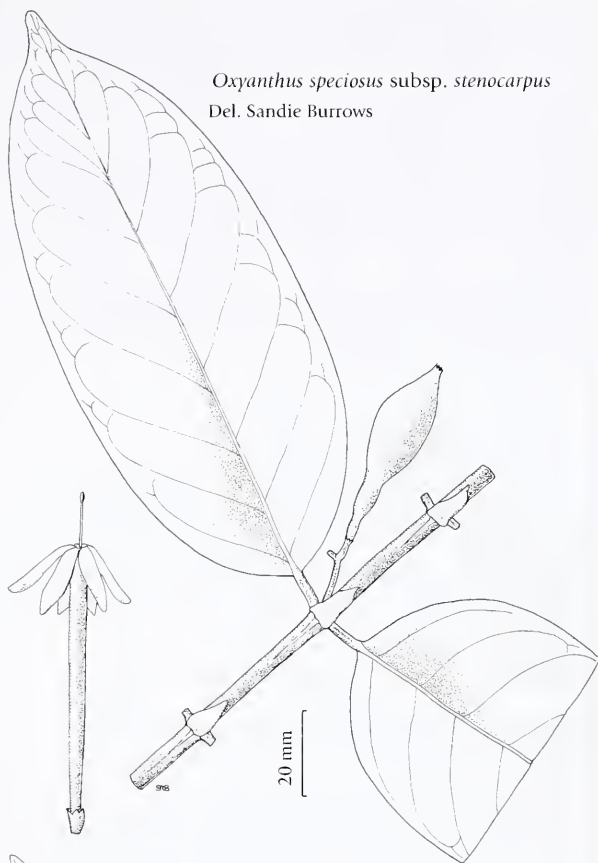


Oldenlandia herbacea
Del. Sandie Burrows

Otiophora scabra subsp. *scabra*
Del. Sandie Burrows



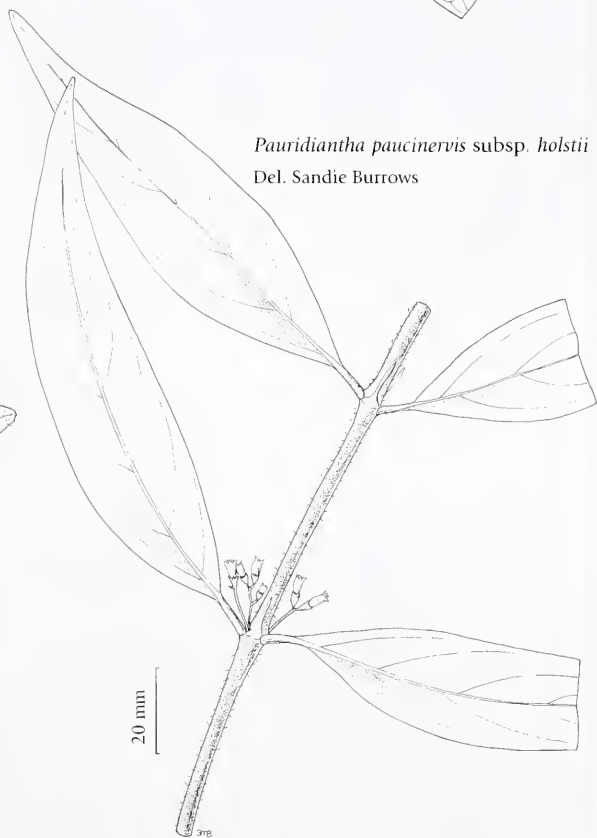
Oxyanthus speciosus subsp. *stenocarpus*
Del. Sandie Burrows



Pachystigma pygmaeum
Del. Sandie Burrows



Pauridiantha paucinervis subsp. *holstii*
Del. Sandie Burrows



Source. *Flora zambesiaca* 5(1): 148 (1989).

Malawi. Nyika Plateau, near Nganda Peak, ca 2,240 m, 1974, Pawek 7912 (K, MO); Chisanga Falls, 2000, *Kasakula 240* (LMA, MAL, SRGH).

Oxyanthus speciosus DC. subsp. **stenocarpus** (K.Schum.) Bridson ✧

Yao: mlonga; *Sukwa:* mpukuso

Shrub or small tree to 12 m tall; leaves opposite, entire, shiny, glabrous, sometimes hairy beneath, domatia present; flowers white/cream, corolla lobes 6–18 mm long; in evergreen forest, often along streams; 750–2,300 m. South Africa to Ethiopia. There are no specimens of this genus from Nyika at Kew.

Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 388); forest patch 15 miles up the Nyika road, 1956, *Chapman 288* (FHO).

Zambia. Nyika Plateau, Manyanjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 388).

Pachystigma pygmaeum (Schltr.) Robyns ✧

Erect or prostrate perennial dwarf shrub to 250 mm tall, subsuffrescent; leaves opposite, often clustered at branch tips, oblong-elliptic to oblanceolate, 40–95 × 16–47 mm, hairless or with short stiff hairs; flowers axillary, in clusters of 3–7, white to creamish green; fruit round, 15–20 mm diameter, crowned by a persistent calyx; in short grassland, laterite pans, dambo margins, open woodland, and termite mounds; 1,170–2,280 m. N. South Africa to S. Tanzania.

Source. Mill (1979).

Malawi. Nyika Plateau, Chelinda Bridge, 7,600', Pawek 11201 (K).

Pauridiantha paucinervis (Hiern) Bremek. subsp. **holstii** (K.Schum.) Verdc. ✧

Pauridiantha holstii K.Schum.

Shrub or small tree, rarely scandent, 1.5–10 m tall, with distinctly hairy young twigs; leaves opposite, 35–155 × 9–52 mm, oblong-elliptic to oblanceolate, glabrous throughout or with a few hairs on the nerves, margins entire, veins prominent below; flowers in axillary clusters, white, cream or yellow, drying red(-dish); fruit orange or red; in various types of evergreen forest; 500–2,400 m. Malawi and Zambia to Kenya and D.R.C.

Source. Dowsett-Lemaire (1985: 388).

Malawi. Nyika Plateau, eastern escarpment forests, *Dowsett-Lemaire ecol.* 128 (K).

Pavetta crassipes K.Schum.

Pavetta barteri Dawe; *Pavetta utilis* Hua

Chichewa: manja ataliu

Tree to 5 m; leaves opposite, entire, linear, leathery. Widespread in tropical Africa from Malawi and Zambia northwards. Very closely related to the South African *P. edentula*.

Source. Brummitt (1973).

Malawi. Nyika Plateau, Sawi Valley, 1972, *Synge 418* (K).

Pavetta kyimbilensis Bremek. subsp. **iringensis** (Bremek.) Bridson

Pavetta lasiobracteata sensu White et al. (2001: 487), pro parte, quoad *Pavetta kyimbilensis* in syn.

Shrub 1.5–2 m tall; leaves opposite, entire, glabrous, shiny above, bacterial nodules linear along midrib with a few dot-shaped and scattered; in montane forest; 1,850–2,400 m. S. Tanzania (Mbeya/Rungwe) and N. Malawi.

Source. Dowsett-Lemaire (1985: 388).

Malawi. Nyika Plateau, without locality, 2,300 m, 1946, *Brass 17202* (K); eastern escarpment, Mwenembwe Forest, 2,000–2,350 m, *Dowsett-Lemaire 780* (K); Mwenembwe Forest, *Chapman 2025* (photocopy K).

Pavetta radicans Hiern

Pavetta ceciliae N.E.Br.

Suffrutex or small shrub to 1 m tall; leaves opposite, oblanceolate, 17–67 × 5–18 mm, entire, tips rounded, sparsely hairy, bacterial nodules dot-shaped, very small, scattered; flowers in few-flowered heads, white to cream, sweetly scented, corolla tube 19–45 mm long; in miombo woodland, sometimes

on rocky scarps; 1,650–1,830 m. Zimbabwe to Angola and Tanzania.

Malawi. Nyika National Park, Thazima Gate, 2000, *Burrows & Maroyi 6807* (MAL, PRE, SRGH, UZL); 1.6 km into Plateau from main road, 1,550 m, *Pawek 7803* (K).

Pavetta schumanniana K.Schum.

Small tree to 8 m tall, bark pale, roughish, flaking; leaves opposite, entire, 30–200 × 13–80 mm, obovate to oblanceolate, roughish, hairy below, pale green; flowers white, in dense heads, corolla tube 5–11 mm long; in miombo woodland and other mixed woodlands; 360–2,400 m. South Africa to Tanzania and westwards to Cameroon.

Malawi. Nyika Plateau, 8 miles N. of M1, 1,660 m, 1978, *Pawek 13718* (K, MAL, MO).

Pavetta subumbellata Bremek. var. **subumbellata** ✧

Shrub or small tree, often scandent, to 7 m tall; leaves opposite, entire, obovate, 3–60 × 2–20 mm, papery, subglabrous or sparsely hairy, bacterial nodules dot-shaped to elliptic, scattered; flowers white, calyx lobes linear, corolla tube 0.9–1.6 mm long; in thicket/scrub or forest edges; 1,500–2,600 m; Malawi, Zambia, and S. Tanzania. Var. *subcoriacea* Bridson (*P. abyssinica* sensu White, Dowsett-Lemaire & Chapman (2001: 484)) occurs on the Vipha plateaux, but not on the Nyika.

Malawi. Nyika Plateau, Juniper Forest Reserve, 2000, *Burrows & Burrows 6942* (Buffelskloof Herbarium); Zovochipolo forest patches 2,100–2,200 m, *Dowsett-Lemaire 89* (K).

Zambia. Nyika Plateau, Manyanjere, Kasoma and Chowo Forests, *Dowsett-Lemaire*, without linked specimen (herbaria not stated); *Fanshawe 7387* (K).

Pentanisia schweinfurthii Hiern ✧●

Pentanisia rhodesiana S.Moore; *Pentanisia crassifolia* K.Krause

Perennial pyrophytic herb, 38–240 m tall; flowers bright blue, white or purple; montane to mid-altitude grassland or miombo woodland; 780–2,270 m. Zimbabwe northwards through most of tropical Africa.

Source. *Flora zambesiaca* 5(1): 59 (1989).

No country given. 1962, Lees 73 (UZL).

Malawi. Nyika Plateau, top of ridge of Chelinda road, 1967, *Richards 22554* (K).

Zambia. Nyika Plateau, 3.2 km S.W. of Rest House, 1958, *Robson & Angus 184* (BM, K).

Pentas decora S.Moore var. **decora** ✧

Herb 0.3–1.5 m high with 2–3 stems from a woody rootstock; leaves opposite, 50–150 × 7–30 mm, lanceolate, entire, usually hairless; inflorescence of 1–5 clusters of up to 30 flowers, flowers white, sweet-scented, corolla tube 30–120 mm long; in *Protea* grassland, *Uapaca* woodland, often boggy; 900–2,250 m. Malawi (Nyika) and N. Zambia to Angola and Sudan.

Source. *Flora zambesiaca* 5(1): 71 (1989).

Malawi. Nyika Plateau, Makanga Hill E, 1976, *Phillips 809A* (K, MO); Wovwe Valley, 2000, *Burrows & Burrows 6913* (MAL, PRE).

Zambia. Nyika Plateau, without locality, 1962, *Fanshawe 7338* (K, NDO).

Pentas lindenoides (S.Moore) Verdc.

Pentas geophila Verdc.

Pyrophytic herb 130–250 mm high, stems hairy; leaves opposite, or in whorls of 3, 32–110 × 14–30 mm, elliptic, entire, hairy; inflorescence dense heads of 1–8 flowers; flowers white, greenish or blue, corolla tube 65–130 mm long; in montane grassland; 2,240–2,280 m. Nyika Plateau and S. Tanzania.

Source. *Flora zambesiaca* 5(1): 71 (1989).

Malawi. Nyika Plateau, between Kasaramba and Chelinda, 1967, *Hilliard & Burt 4407* (E, K, NU); Kasaramba View Road, 7,600', 1969, *Pawek 3315* (K).

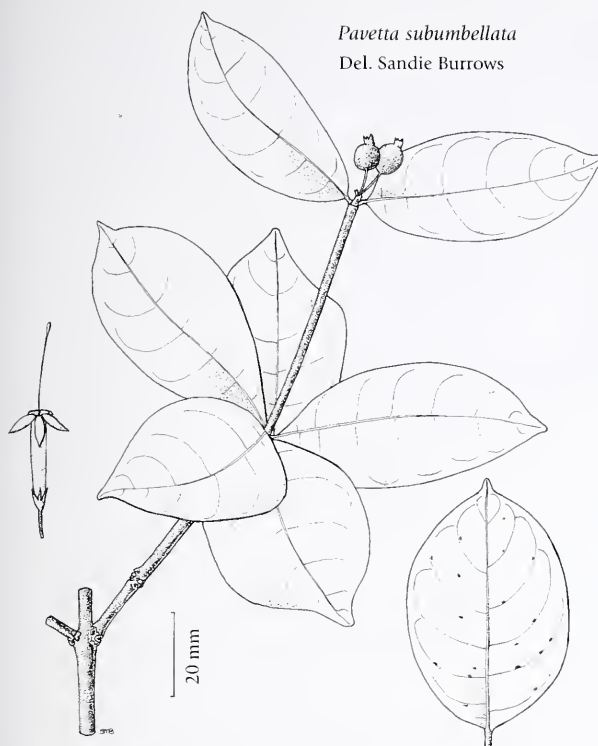
Zambia. Nyika Plateau, without precise locality, 1974, *Fanshawe 12176* (K, NDO).

Type: Nyika Plateau, 1903, *Henderson* s.n. (BM, holo.).

Pentas purpurea Oliv. subsp. **purpurea**

Herb with 1–4 stems 300–600 mm tall from a woody rootstock; leaves opposite, lanceolate to ovate or elliptic, 45–135 × 10–45 mm, entire, sparsely

Pavetta subumbellata
Del. Sandie Burrows



Pentania schweinfurthii
Del. Julia Loken

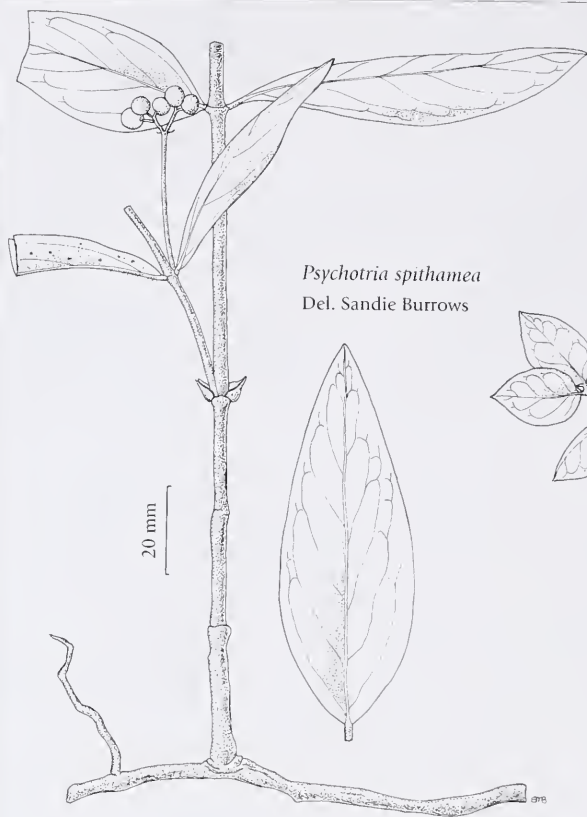


Pentodon pentandrus var. *pentandrus*
Del. Sandie Burrows

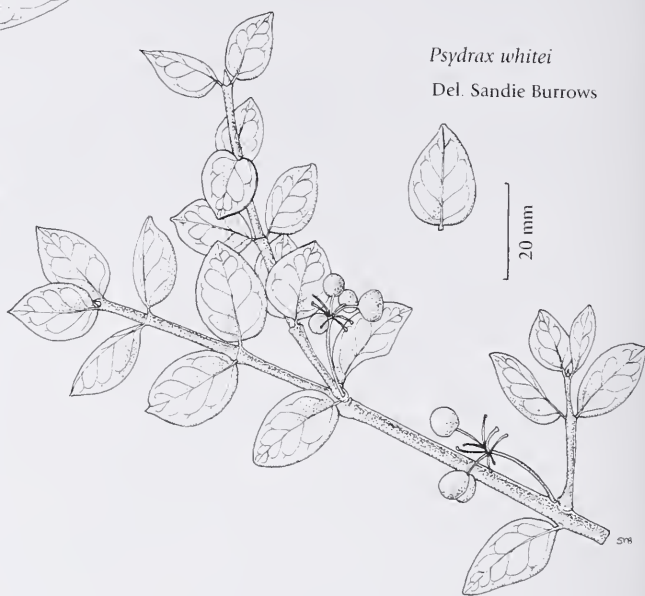


Pentas decora var. *decora*
Del. Sandie Burrows





Psychotria spithamea
Del. Sandie Burrows



Psydrax whitei
Del. Sandie Burrows



Pygmaeothamnus zeyheri
var. *rogersii*
Del. Maureen Church



Rothmannia fischeri subsp. *fischeri*
Del. Sandie Burrows

hairy on both surfaces; flowers very dark blue, corolla tube 40–80 mm long; in open grassland, wooded grassland or various types of woodland; 780–2,100 m. Zimbabwe to Tanzania and W. Africa.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979); N. of Lake Kaulime, 2000, *Willis & Luhanga 114* (MAL, PRE, UZL).

Pentas schimperiana (A.Rich.) Vatke subsp. *schimperiana*

Pentas thomsonii Scott-Elliott

Shrub or woody herb 1.3–3.0 m high; leaves opposite, 60–210 x 18–80 mm, entire, ovate to lanceolate, rusty-hairy on both surfaces, stipules large, linear; flowers white to pinkish with a musky scent, corolla tube 5–14 mm long; in montane forest margins, scrub or streamside thickets; 1,710–2,350 m. Nyika and Vipha northwards to Ethiopia.

Source. Brummitt (1973).

Malawi. Nyika Plateau, near Muzengapakweru, 1972, *Synge 344* (K, MAL, SRGH); Chisanga Falls, 2000, *Burrows & Burrows 6764* (MAL, PRE, SRGH, UZL).

Zambia. Nyika Plateau, below Rest House on path to N. Rukuru waterfalls 1958, *Robson & Angus 397* (BM, K, LISL).

Pentodon pentandrus (Schumach. & Thonn.) Vatke var.

pentandrus ✧

Weak-stemmed slender procumbent herb or short-lived perennial; leaves opposite, linear-lanceolate to elliptic, 15–80 x 4.5–25 mm; inflorescence axillary, with 1–4 widely-spaced flowers, flowers minute, white to blue; in rainforest, swamps, wet grassland; 700–900 m. (McClounie's Nyika record here is dubious). Widespread in tropical Africa; also in Madagascar and the New World.

Source. *Flora zambesiaca* 5(1): 116 (1989).

Malawi. Nyika Plateau, Mwanemba (Mwenembwe), 1903, *McClounie 74* (K).

Psychotria ealaensis De Wild.

Climbing shrub with stems 6–15 m long; leaves opposite, 35–110 x 10–55 mm, margins entire, apex acuminate, hairless, domatia present; flowers yellowish, greenish or lilac; ripe fruits red; in montane forest, 1,200–2,100 m. N. Mozambique to Uganda and Cameroon. Possibly only a climbing form of *P. mahonii*.

Source. *Flora zambesiaca* 5(1): 17 (1989).

Malawi. Nyika Plateau, Mwenembwe Forest, 1983, *Dowsett-Lemaire ecol.* 124 (K).

Psychotria eminiiana (Kuntze) E.M.A.Petit var. *eminiiana*

Shrub 0.15–2 m tall, shoots from a very woody rootstock, young shoots, petioles, peduncles and leaf undersides often densely hairy; leaves opposite, variable, 30–250 x 20–130 mm, margins entire, upper surface quilted, domatia present; fruits red; in miombo woodland, deciduous thicket, and bush, sometimes riverine; 480–1,650 m. Mozambique, Malawi, and Zambia to Tanzania and Nigeria.

Malawi. Nyika Plateau, N. of Nganda above Sawi and Bongo Rivers, 1,200 m, *Patel, Ludlow, Scott & Creegan 5062* (K); 0.5 miles in Nyika road, 1975, 1,550 m, *Pawek 9836* (K).

Psychotria linearisepala E.M.A.Petit var. *linearisepala*

Shrub or small tree 0.3–4 m tall, branches slender; leaves opposite, 10–90 x 5–45 mm, entire, variously hairy on both sides, discolorous; flowers cream to yellowish, calyx lobe long, linear; fruit red; in *Brachystegia*, *Uapaca* and other woodland, evergreen forest, riverine, often in rocky places; 750–1,650 m. Mozambique, Malawi, Zambia, D.R.C., and S. Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill, 1979, but none at Kew).

Psychotria mahonii C.H.Wright

Psychotria mahonii var. *puberula* (E.M.A.Petit) Verdc.; *Grimileia macrantha* K.Schum., non *Psychotria macrantha* Müll.Arg.; *Grimileia punicea* S.Moore

Small tree to 5–10 m, sometimes with pendulous branches and rough bark; leaves opposite, 30–230 x 15–100 mm, obovate to oblong-elliptic, glabrous or hairy below, domatia conspicuous, hairy; flowers white, greenish or yellow; fruit red; in evergreen riverine forest, miombo woodland, and

Pericopsis-Burkea woodland; 640–1,850 m. Zimbabwe through eastern Africa to Kenya.

Source. Brummitt (1973).

Malawi. Nyika Plateau, Chipome Valley, 1972, *Synge 270* (K, MAL, SRGH); Sawi Valley, 1,465 m, 1972, *Synge 404* (FHO).

Psychotria peduncularis (Salisb.) Steyererm. var. *rufonyassana* Verdc.

Cephaelis peduncularis sensu White (1962)

Subshrub, shrub or shrubby herb 0.2–3 m tall; leaves opposite, elliptic to obovate or lanceolate, 25–265 x 31–135 mm, glabrous above, usually hairy below, stipules large, bilobed; inflorescence compact, surrounded by a pale involucre (bracts), borne on a long pale peduncle; fruit in tight clusters, blue, blue-black or white; understorey of evergreen forest or riverine forest; 1,050–1,750 m. Zambia, Malawi, and S. Tanzania.

Source. Dowsett-Lemaire (1985: 361).

Malawi. Nyika Plateau, below N. Rukuru waterfalls, 1,700–1,750 m, *Dowsett-Lemaire*, without linked specimen (none at Kew).

Psychotria spithamea S.Moore ✧

Multi-stemmed subshrub with several stems 0.1–0.5 m high, arising from a creeping woody rhizome; leaves opposite, 30–220 x 6–54 mm, entire, often hairy or velvety below, domatia absent; flowers white or cream; fruit red; in miombo woodland, *Parinari* thicket or grassland; 560–1,860 m. Malawi and Zambia to Angola, D.R.C., and Tanzania. Very similar to *P. kirkii*.

Source. *Flora zambesiaca* 5(1): 30 (1989).

Malawi. Nyika Plateau, without precise locality, 1976, *Phillips 853* (K, MO); Nyika National Park, Thazima Gate, 2000, *Burrows & Maroyi 6808* (MAL, PRE, SRGH, UZL).

Psychotria zombamontana (Kuntze) E.M.A.Petit

Grimileia kirkii Hiern; *Psychotria meridiano-montana* E.M.A.Petit var.

glabra E.M.A.Petit

Shrub or small tree 1.5–9 m; leaves opposite, 35–165 x 10–80 mm, entire; glabrous, prominently ribbed with more-or-less parallel veins, domatia absent or inconspicuous; flowers white or pale yellow; ripe fruits orange; in montane forest, forest margins, and scrub; 990–2,500 m. South Africa (Mpumalanga) through eastern tropical Africa to Tanzania.

Source. *Flora zambesiaca* 5(1): 16 (1989).

Malawi. Nyika National Park, Juniper Forest Reserve, 2000, Chikuni 506 (MAL); Jalawe Viewpoint, 2000, Thera 3075 (MAL).

Zambia. Nyika Plateau, upper slopes of Kangampande Mountain (Chow Forest), 1952, *White 2733* (FHO, K). [Type: Zambia, Nyika Plateau, Robson 347 (K, holo., BM)].

Psydrax livida (Hiern) Bridson

Canthium huillense Hiern; *Canthium wildii* (Suess.) Codd

Small tree to 8m, often with more or less horizontal branches, bark pale, smooth; leaves opposite, 15–130 x 10–70 mm, narrowly to broadly ovate, entire, usually finely hairy, ciliate domatia present; flowers whitish, in dense axillary heads; in various types of woodland, often in rocky areas; 300–1,600 m. South Africa to Angola and Kenya.

Malawi. Nyika Plateau, without locality, collector unknown (Mill, 1979, but none at Kew).

Psydrax parviflora (Afzel.) Bridson subsp. *rubrocosta* (Robyns) Bridson

Canthium vulgare (K.Schum.) Bullock, sensu Dowsett-Lemaire (1985)

Medium-sized tree 6–20 m tall; leaves opposite, 55–155 x 33–68 mm, oblong-elliptic to ovate, entire, glabrous with red midrib and hairy domatia below; flowers whitish, in axillary clusters; in evergreen montane forest; 1,800–2,000 m. Nyika Plateau northwards to Sudan; rare on Nyika.

Source. Dowsett-Lemaire (1985: 388).

Zambia. Nyika Plateau, Manyenjere Forest, *Dowsett-Lemaire 322* (herbaria not stated).

Psydrax whitei Bridson ✧

Canthium whitei (Bridson) F.White

Shrub or small tree 1.5–9 m; leaves opposite, entire, broadly elliptic to

roundish, 13–30 x 9–35 mm, glossy dark green and glabrous above, hairy domatia present below; flowers greenish cream, in dense axillary clusters; in evergreen montane forest, forest margins, and rocky outcrops; 2,100–2,300 m. N. and E. Zambia, N. Malawi, and Tanzania.

Source. *Flora zambesiaca* 5(2): 353 (1998).

Malawi. Nyika Plateau, Chelinda, 1959, *Adlard 300* (K, SRGH); N. of Lake Kaulime, 2000, *Willis & Luhanga 121* (MAL, PRE, UZL). [Type: Malawi, Nyika Plateau, *Richards 22527* (K, holo.).]

Zambia. Nyika Plateau, without precise locality, 1962, *Fanshawe 7299* (K).

Pygmaeothamnus zeyheri (Sond.) Robyns var. **rogersii** Robyns ✧

Suffrutex with slender stems to 300 mm high; leaves opposite, entire, more-or-less hairy, in 2s, 3s, or 4s; flowers red or greenish; fruit pear-shaped, without a persistent calyx; high-rainfall miombo woodlands, submontane grassland, and dambo margins; 900–2,200 m. South Africa to D.R.C. and Tanzania.

Source. *Flora zambesiaca* 5(2): 309 (1998).

Zambia. Nyika National Park, between Zambian Rest House and Manyanjere Forest, 1992, *Goyder, Paton & Tawakali 3561* (K, NDO).

Rothmannia fischeri (K.Schum.) Bullock subsp. **fischeri** ✧

Randia fischeri K.Schum.

Small tree to 8 m tall; flowers large, showy, white with reddish spots in the throat; fruit green, finely speckled cream; on rocky hillsides in woodland, thicket to forest; near sea-level to 2,200 m. South Africa to Tanzania and D.R.C.

Source. Brummitt (1973: 74).

Malawi. Nyika Plateau, E. summit of Kawozya, 1972, *Brummitt & Syngé 218* (K, MAL).

Zambia. Nyika Plateau, Chowo Forest, *Dowsett-Lemaire*, without linked specimen (herbaria not stated).

Rubia cordifolia L. subsp. **conotricha** (Gand.) Verdc. ✧

Rubia conotricha Gand.; *Rubia longipetiolata* Bullock; *Rubia discolor* Turcz.

Climbing herb with straggly stems about 5 m long, distinctly 4-ribbed; leaves entire, stalked, in whorls of 4, 20–65 x 10–30 mm, leaves and stems covered in prickles ('Velcro'); forest margins, scrub, and bush-clumps. Widely distributed through E. tropical Africa to Angola and Eastern Cape.

Source. Brummitt (1973: 74).

Malawi. Nyika Plateau, between Nganda and Muzengapakweru, 1972, *Syngé 358* (K, MAL, SRGH); Nganda Hill, 2000, *Izidine 115* (LMA).

Zambia. Nyika Plateau, ca 4 km S.W. of Rest House (stated as Malawi in FZ), 1958, *Robson & Angus 306* (BM, K, SRGH).

Rutidea fuscescens Hiern subsp. **fuscescens** ✧

Shrub or liane 1–9 m high, branches often horizontal or backward-pointing; leaves opposite, entire, shiny, glabrous above, hairy domatia present; in rainforest or thicket; 1,000–2,200 m. Zimbabwe to Tanzania.

Source. *Dowsett-Lemaire* (1985: 388).

Malawi. Nyika Plateau, Zovochipolo Forest (*Dowsett-Lemaire* 1985: 388).

Zambia. Nyika Plateau, Chowo Forest, 2000, *Phiri 4028* (UZL).

Rutidea orientalis Bridson

Scandent shrub or climber, all parts with russet hairs, similar to *Keetia gueinzii*, but with stipules 5-fingered; flowers *Pavetta*-like; in or at edges of evergreen forest, or in scrub; 800–2,250 m. Zimbabwe to D.R.C. and Kenya. Probably rare on the Nyika.

Source. *Dowsett-Lemaire* (1985: 388).

Malawi. Nyika Plateau, below N. Rukuru (Chisanga) Waterfalls, *Dowsett-Lemaire 324* (herbaria not stated but not at K).

Rytigynia adenodonta (K.Schum.) Robyns var. **adenodonta**

Bushy shrub or small tree to 3.5 m high, young stems often hairy; leaves opposite, entire, 20–25 x 10–15 mm, elliptic to broadly ovate-elliptic, glabrous or with some hairs below, domatia hairy; otherwise very similar to *R. uhligii*. In montane forest, upper end of forested ravines, and rocky slopes; 2,100 m. Malawi, E. Zambia, and Tanzania. Nyika is probably the

southern limit of this variety.

Source. *Flora zambesiaca* 5(2): 290 (1998).

Malawi. Nyika Plateau, Chowo Rock, 1977, *Pawek 13193* (K, MAL, MO, SRGH, UC).

Zambia. Nyika Plateau, 8.8 km S.W. of Rest House, 1958, *Robson & Angus 354* (BM, K, LISC).

Rytigynia adenodonta (K.Schum.) Robyns var. **reticulata** (Robyns) Verdc.

Canthium sp. 1 of White et al.: 472 (2001).

As for var. *adenodonta*, but the young stems mostly glabrous; leaves opposite, entire, up to 75 x 45 mm; in montane forest and forest margins, often in rocky places; 1,770–2,200 m. Mozambique, Malawi, Zambia, and S. Tanzania.

Source. *Flora zambesiaca* 5(2): 291 (1998).

Malawi. Nyika Plateau, Engineers' Forest, Nthalire Forest crossroads, 1975, *Phillips 747* (K, MO).

Zambia. Nyika Plateau, 8.8 km S.W. of Rest House, 1958, *Robson & Angus 354* (BM, K, LISC).

Rytigynia macrura Verdc.

Rytigynia sp. 1 sensu R.B.Drumm. in *Kirkia* 10: 276 (1975)

Shrub 1.5–4.5 m tall with smooth grey bark and long branches with graceful horizontal branchlets; leaves opposite, narrowly obovate to almost round, 10–65 x 4–30 mm, entire, hairy, with domatia; fruit 14 mm diameter, yellowish; in high-altitude miombo and montane forests; 1,040–2,000 m. Confined to the *Flora zambesiaca* area; probably also on the Malawian Nyika.

Source. *Flora zambesiaca* 5(2): 297 (1998).

Zambia. Nyika Plateau, Kasoma Forest, 1983, *Dowsett-Lemaire 562* (FHO, K).

Rytigynia monantha (K.Schum.) Robyns var. **monantha** ✧

Rytigynia castanea Lebrun, Taton & Toussaint; *Rytigynia* sp. sensu

Brenan (1954); *Rytigynia* sp. 3 sensu White (1962)

Much-branched shrub or small tree 0.3–4.5 m, twigs more-or-less glabrous; leaves opposite, ovate, oblong or elliptic, entire, mostly densely hairy, velvety below; fruit round, 3- to 6-lobed, 6–8 mm diameter, hairy; in miombo woodland to evergreen forest, often on rocky places; 585–2,250 m. Malawi and N. Zambia to Rwanda and Tanzania.

Source. *Flora zambesiaca* 5(2): 295 (1998).

Malawi. Nyika Plateau, N. Rukuru (Chisanga) Waterfall, 1959, *Robinson 3095* (K, PRE); Zungwara Road, 2000, *Burrows & Burrows 6882* (MAL, PRE, UZL).

Zambia. Nyika Plateau, upper slopes of Kangampande (Chowo Forest), 1952, *White 2735* (FHO, K, WAG).

Rytigynia uhligii (K.Schum. & K.Krause) Verdc.

Shrub or tree to 9 m, bark smooth, peeling to pale; leaves opposite, 15–110 x 5–48 mm, elliptic to ovate, hairless, but with tufted domatia below; inflorescence 1- to 2-flowered, flowers whitish; fruit blue-black, 9–10 mm diameter; in evergreen forest understorey; 900–2,000 m. Zimbabwe to Kenya. Can be difficult to distinguish from *R. adenodonta*.

Source. *Flora zambesiaca* 5(2): 291 (1998).

Malawi. Nyika Plateau, Nyamkhowa Forest, 1982, *Dowsett-Lemaire 534* (K).

Spermacoe dibrachiata Oliv.

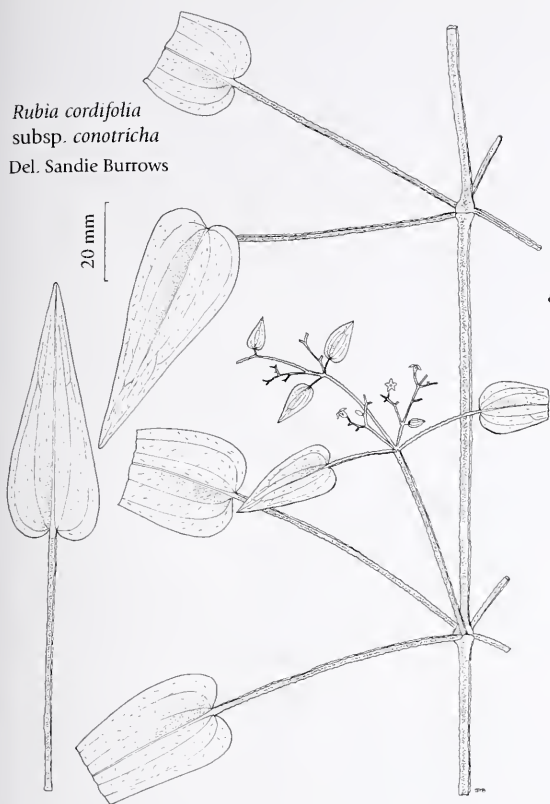
Annual or perennial herb to 0.9 m tall, variable, stems branched or unbranched, usually bristly; leaves opposite, entire, lanceolate, 45–120 x 3.5–20 mm, glabrous or with long hairs on both surfaces; flowers blue to violet; in grassland, miombo woodland or disturbed areas; 750–2,100 m. Zimbabwe to Angola, Rwanda, and Tanzania.

Malawi. Nyika National Park, Chisanga Falls, 2000, *Burrows & Burrows 6754* (LMA, MAL, PRE, UZL); Chosi Hill, 2000, *Chapama 144* (MAL).

Spermacoe filifolia (Schum. & Thonn.) J.-P.Lebrun & Stork

Annual erect herb 0.15–0.9 m high; leaves opposite, entire, filiform, subulate, 30–100 x 0.2–0.8 mm; flowers with a white tube and blue lobes; in wet

Rubia cordifolia
subsp. *conotricha*
Del. Sandie Burrows



Rutidea fuscescens subsp. *fuscescens*
Del. Sandie Burrows

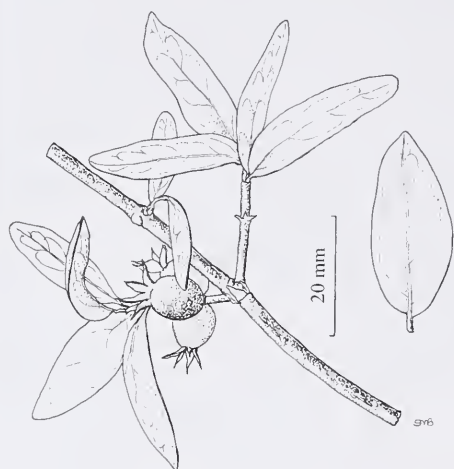


Rytigynia monantha var. *monantha*
Del. Sandie Burrows



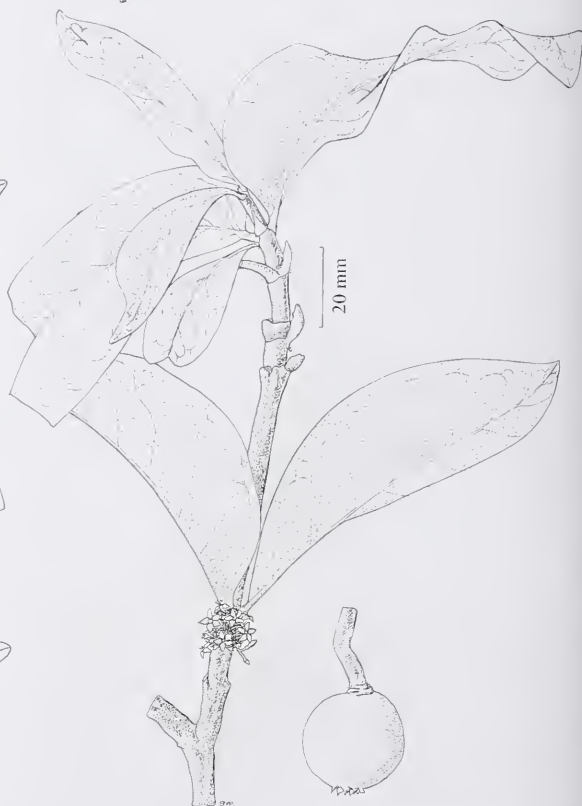
Spermacoce princeae var. *princeae*
Del. Maureen Church

Tapiphyllum cinerascens var. *laevius*
Del. Sandie Burrows



Tarenna neurophylla
Del. Sandie Burrows

Tricalysia coriacea
Del. Sandie Burrows



Vangueria infausta subsp. *rotundata*
Del. Sandie Burrows

grassy areas, also drier miombo woodlands; 1,120–1,200 m. Zimbabwe to Senegal and Sudan. This collection is from 8,000 ft (2,580 m), which must be a mistake; see also notes on *McClounie*.

Source. *Flora zambesiaca* 5(1): 174 (1989).

Malawi. (Nyika Plateau?), Mwanemba (Mwenembwe), 1903, *McClounie* 24 (K).

Spermocoe huillensis (Hiern) R.D. Good

Annual herb 150–300 mm tall, mostly branched near the base, stems purplish-brown, hairy; leaves opposite, entire, lanceolate to elliptic (lower leaves), 13–26 x 18–35 mm, glabrous, shiny above, sometimes scabrid, hairy below; flowers white to pale mauve; in miombo woodland, often in disturbed areas; 1,140–1,440 m. Zimbabwe, Malawi, Zambia, Angola, and Tanzania.

Malawi. Nyika National Park, Chipome Valley, 2001, without collecting details (Patel & Overton 2002: 39).

Spermocoe princeae (K. Schum.) Verdc. var. **princeae** ✧

Scrambling or decumbent perennial herb, much-branched, stems often dark crimson; leaves opposite, entire, elliptic to ovate, 12–70 x 3.5–30 mm, hairy or not above, sparsely hairy below, margins scabrid; flowers white, sometimes tinged pinkish; in riverine evergreen forest and montane forest margins; 1,350–2,250 m. Zambia and Malawi to Cameroon and Ethiopia.

Source. *Flora zambesiaca* 5(1): 179 (1989).

Malawi. Nyika National Park, Chelinda Dam, 2000, *Chapama* 198 (MAL).

Zambia. Nyika Plateau, 8.8 km S.W. of Rest House, 1958, *Robson* 353 (K); Chowo Rock, 1973, *Pawek* 6681 (K).

Spermocoe pusilla Wall.

Annual herb, erect or prostrate, stems grooved, subglabrous, reddish; leaves opposite, entire, linear-lanceolate, 10–53 x 2–5.5 mm, minutely scabrid above, glabrous below; flowers white or pinkish; in seasonally damp grassland, miombo woodland, stream banks, roadsides, mostly on sand; 120–2,010 m. Widespread in tropical Africa; also in Madagascar and Asia to Japan and the Philippines.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979).

Tapiphyllum cinerascens (Welw. ex Hiern) Robyns var. **laevius** (K. Schum.) Verdc. ✧

Tapiphyllum griseum Robyns [Type: Nyika Plateau, *Robinson* 3098 (K, holo., PRE, iso.)]

Erect shrub or small tree to 3 m tall, or suffrutescent, all parts velvety; leaves opposite, occasionally in whorls of 3, 20–110 x 5–35 mm, hairy above, velvety below, often discolorous; fruit 8–9 mm diameter, velvety yellowish, crowned with the persistent calyx; in miombo woodland, 800–1,800 m. Mozambique, Malawi, and Tanzania.

Source. *Flora zambesiaca* 5(2): 261 (1998).

Malawi. Nyika Plateau, by Chisanga Falls, 1982, *Brummitt* et al. 16184 (K, MAL); 2000, *Burrows & Burrows* 6761 (MAL, PRE, UZL).

Tarenna neurophylla (S. Moore) Bremek. ✧

Coptosperma neurophylla (S. Moore) Degreaf

Chichewa: kasonjonola

Small tree to 9 m tall; leaves opposite, entire, elliptic, often pendulous, glabrous, without domatia; inflorescence terminal (plus some axillary), flowers whitish to yellowish; in miombo woodland; 760–1,500 m. Zimbabwe to D.R.C. and Tanzania.

Malawi. Nyika Plateau, without locality, collector unknown (Mill 1979, but none at K from Nyika, only on road to Nyika).

Tricalysia acanthoroides K. Schum.

Chichewa: chindongolya

Shrub, sometimes a small tree, 1.5–7 m tall, young twigs finely hairy; leaves opposite, 35–75 x 20–27 mm, entire, apex acute to acuminate, glabrous although the midrib is hairy below, hairy domatia present; in montane forest; 1,500–2,400 m. Tanzania, Malawi, Mozambique, Zambia, and Zimbabwe. See also the similar *T. verdcourtiana* below.

Source. Dowsett-Lemaire (1985: 389); White et al. (2001).

Malawi. Nyika Plateau, Juniper Forest Reserve, 2000, *Chikuni* 502 (MAL);

Mwenembwe Forest, 2,100 m, *Dowsett-Lemaire* ecol. 120 (K) and Juniper Forest, 2,150 m, *Dowsett-Lemaire* ecol. 125 (K);

Zambia. Nyika Plateau, Chowo Forests, 2,100–2,200 m, *Dowsett-Lemaire* 85 (K); 2 miles S.W. of Rest House, 2,150 m, 1958, *Robson & Angus* 197 (K).

Tricalysia coriacea (Benth.) Hiern subsp. **nyassae** (Hiern) Bridson ✧

Tricalysia nyassae Hiern

Tonga: komberapila

Tree to 6 m tall; leaves opposite, ovate to obovate, 60–200 x 30–80 mm, entire, leathery, hairless, with hairy domatia below; flowers axillary, whitish pink, sweetly scented; fruit red when ripe, 6–10 mm diameter; in riverine and swamp forest or in termite hill thicket. Zimbabwe and Mozambique to Tanzania.

Source. Brummitt (1973: 74).

Malawi. Nyika Plateau, Sawi Valley, 1972, *Synge* 407 (FHO, K, MAL, SRGH).

Tricalysia verdcourtiana Robbr.

Tricalysia acanthoroides auctt., non K. Schum; *Tricalysia myrtifolia* auctt., non S. Moore.

As for *T. acanthoroides*, but flowers in September (cf. November); fruits are spherical (cf. elongated), a leaf with lateral nerves in (5)7–8(10) (not 4–6) main pairs and a mucro of < 1 mm (cf. > 1 mm); on Nyika it is more common than *T. acanthoroides*. Locally common in montane forests. Also in N. Zambia and S. Tanzania. Nyika is the southernmost locality for this species.

Source. Dowsett-Lemaire (1987: 102); White et al. (2001).

Malawi. Nyika Plateau, Luselo Forest, *Salubeni* 352 (BR, K, P); Kafwimba Forest, 2,000 m, 1969, *Pawek* 2782 (K); 1977, *Pawek* 12964 (K).

Zambia. Nyika Plateau, Kasoma Forest, *Dowsett-Lemaire* 86 (K).

Vangueria apiculata K. Schum.

Vangueria longicalyx Robyns

Shrub or small spreading tree 2–15 m tall; leaves opposite, entire, thin, large, 30–150 x 15–60 mm, glabrous, slightly grey-green; fruit roundish, 14–22 mm diameter, hairless, brown when ripe; in montane grassland on rocky outcrops, scrub, forest margins, riverine forest, and termite mounds; 900–2,050 m. Zimbabwe to D.R.C. and Ethiopia. Rare on Nyika; only this specimen so far collected.

Source. Dowsett-Lemaire (1985: 389); White et al. (2001).

Zambia. Nyika Plateau, edge of Chowo Forest, *Dowsett-Lemaire* 73 (herbaria not stated).

Vangueria infausta Burch. subsp. **rotundata** (Robyns) Verdc. var. **campanulata** (Robyns) Verdc. ✧

Chichewa: mbilima, mfulukutu, msilu, mpulukututu; *Tumbuka:* mvilu, mzilu

Small gnarled tree with pale bark; leaves opposite, entire, large, 40–300 x 25–180 mm, hairy; flowers in loose axillary heads, green to yellow-green; fruit large, green, shiny, up to 50 mm diameter, edible; in various types of woodland and wooded grassland; sea-level to 2,000 m. South Africa to Tanzania. Rare on Nyika.

Source. Dowsett-Lemaire (1985: 389); *Flora zambesiaca* 5(2): 251 (1998).

Malawi. Nyika Plateau, Kasyaula, *Dowsett-Lemaire* 254 (herbaria not stated).

Vangueria volkensii K. Schum. var. **kyimbilensis** (Robyns) Verdc.

Chichewa: msilu

Spreading shrub or small tree 2–9 m tall; leaves opposite, 30–170 x 15–100 mm, densely hairy to velvety throughout; fruit roundish, 20–25 mm diameter, brown when ripe; in mid-stratum of evergreen forest, near streams; 2,050 m. S. Tanzania and Nyika Plateau. Possibly just a hairy form of *V. apiculata*.

Source. Dowsett-Lemaire (1985: 389); *Flora zambesiaca* 5(2): 255 (1998).

Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests, *Dowsett-Lemaire*, without linked specimen (herbaria not stated).

Zambia. Nyika Plateau, Manyanjere Forest, 1981, *Dowsett-Lemaire* 314 (K).

Excluded species

Galium ossirwaense Krause ?var.

Galium ossiriense Krause (sensu Mill (1979))

This taxon, listed in Mill (1979), is also listed in *F.T.E.A. Rubiaceae* 1: 400 (1976), where its occurrence is noted for Malawi. However, it is not listed in *Flora zambesiaca* 5(1)(1989), nor mentioned there as a synonym. Bridson (pers. comm.) states that the taxon was erroneously omitted from *Flora zambesiaca* and that it is recorded from the mountains E. of Lake Nyassa (Lake Malawi) in Mozambique (Niassa Province). Since we have no voucher specimen from Nyika, or indeed Malawi, this is presently an unconfirmed record and is excluded here. This species may be distinguished from *G. scabrellum* by the lack of prickles along the leaf blade margin and from *G. bussei* by its much shorter leaves.

Malawi. Nyika Plateau, without locality or collecting details (Mill 1979).

Tricalysia niarniamensis Hiern var. **nodosa** Robbrecht

Tricalysia angolensis sensu R.B.Drumm. in *Kirkia* 10: 275 (1975)

This taxon does not occur in Malawi (N.); perhaps confused with *Tricalysia acocantherioides* or *T. verdcourtiana* (Bridson, pers. comm.).

Malawi. Nyika Plateau, without locality or collecting details unknown (Mill 1979).

Vangueria sp.1

Tree to 7 m; bark pale; in light shade of montane forest; 2,000–2,350 m. Known only from Nyika. Bridson (pers. comm.) records that this perhaps equals *V. volkensii* K.Schum. var. *kyimbilensis* (Robyns) Verdc. (*Dowsett-Lemaire* 180 (BR), a poor specimen).

Source. White et al. (2001: 507).

Malawi. Nyika National Park, Juniper Forest, *Dowsett-Lemaire* 180; Mwenembwe, 1963, *Chapman* 2023 (FHO).

RUTACEAE

Clausena anistata (Willd.) Hook.f ex Benth. ✧

Chicbewa: kalengantunzi, mkangano, msambasanya

Shrub or small unarmed tree, bark grey, smoothish; leaves with a pungent smell, imparipinnate with 5–9 pairs of pinnae, densely dotted with pellucid glands, more or less hairless; flowers small, white, in loosely branched axillary clusters; fruit a small black aromatic berry; in afro-montane forest; sea-level to 2,150 m. Cape to Ethiopia.

Source. *Flora zambesiaca* 2(1): 191 (1963); White et al. (2001: 508).

Malawi. Nyika Plateau, without precise locality, 1958, *Robson* 420A (BM, K, LISC, PRE, SRGH).

Zambia. Nyika Plateau, 3.2 km S.W. of Rest House, 1958, *Robson* 216 (BM, K, LISC, PRE, SRGH, UZL).

Teclea nobilis Delile ✧

Vepris nobilis (Delile) Mziray

Chicbewa: mkulukuku

Evergreen tree to 15 m tall, glabrous throughout; leaves alternate, 3-foliate, leaflets elliptic to narrowly elliptic, apex acuminate or acute, gland dots clearly visible to the naked eye; fruit in loose axillary clusters, ovoid, 5–8 mm long, unlobed, light red; in mid-stratum of drier montane and *Juniperus* forests; 1,450–2,200 m. Zimbabwe and Mozambique to Sudan and Ethiopia.

Source. *Flora zambesiaca* 2(1): 206 (1963); White et al. (2001: 515).

Malawi. Nyika National Park, Kasyaula Forest (*Dowsett-Lemaire* 1985: 316); Kashaulo, 6.5 miles from N.R. Rest House, 6,500', 1964, *Chapman* 2205 (FHO).

Zambia. Nyika Plateau, without precise locality, 1958, *Lawton* 547 (FHO, K).

Toddalia asiatica (L.) Lam. ✧

Robust liane climbing to 20 m, branchlets and petioles with blackish recurved thorns, which, on the stems, are mounted on raised corky bosses;

leaves 3-foliate, aromatic with a citrus smell, pellucid gland-dotted; fruit small, 7–8 mm diameter, like miniature oranges; in montane and drier types of montane forest; 1,300–2,450 m. South Africa to Sudan and Ethiopia, Madagascar, and India. Used by some tribes to make walking sticks.

Source. *Flora zambesiaca* 2(1): 199 (1963); White et al. (2001: 511).

Malawi. Nyika National Park, Kasyaula and Zovochipolo Forests (*Dowsett-Lemaire*, 1979a: 320).

Zambia. Nyika Plateau, without precise locality, 2,150 m, 1958, *Robson* 487 (BM, K, LISC, PRE, SRGH).

Vepris stolzii I.Verd. ✧

Evergreen tree 12–14 m tall, glabrous throughout; leaves alternate, 3-foliate, leaflets elliptic to narrowly elliptic, 8–13 mm long, acuminate, gland dots inconspicuous; fruit a berry, 20 mm diameter, on a stalk 3–7 mm long; 4-locular, tetragonal, rind hard; locally frequent in evergreen forest; 1,000–2,220 m. Mozambique, Malawi, and Zambia to D.R.C., Uganda, and Kenya.

Source. *Flora zambesiaca* 2(1): 201 (1963); White et al. (2001: 516).

Malawi. Nyika National Park, Kasyaula and Zovochipolo Forests (*Dowsett-Lemaire* 1979: 316).

Zambia. Nyika Plateau, without precise locality, 2,150 m, 1958, *Robson* 419 (BM, K, LISC, PRE, SRGH).

Zanthoxylum chalybeum Engl. ✧

Fagara chalybea (Engl.) Engl.

Deciduous shrub or small tree to 6 m tall, armed with reddish recurved spines 2–10 mm long; leaves pinnate with 2–5 pairs of leaflets, with pellucid gland dots, aromatic; in dry woodland on termite mounds; below 1,400 m. Zimbabwe to Ethiopia.

Source. *Flora zambesiaca* 2(1): 180 (1963).

Malawi. Nyika National Park, without locality or collecting details (*Patel* 1999); Nkhonjera Hill, 1954, *Chapman* 184 (FHO).

SALICACEAE

Salix mucronata Thunb. subsp. **mucronata** ✧

Salix hutchinsii Skan; *Salix subserrata* Willd.

Small tree to 8 m tall, bark brown, fissured; leaves alternate, narrowly lanceolate, 60–120 × 4–14 mm, dark green above, silvery white below, margins entire to serrate; flowers in pendulous racemes, yellowish; seeds fluffy; near and on the banks of streams and rivers, sometimes partially submerged,

in bush land, and grassland; 600–2,200 m. Widespread, from Arabia, Egypt, and Ethiopia southwards to Namibia and South Africa.

Source. *Flora zambesiaca* 9(6): 121 (1991).

Malawi. Nyika Plateau, 8 km E. of Nganda, by tributary of Wowwe River, 1972, *Brummitt*, *Munthali* & *Synge* WC137 (K, MAL, SRGH).

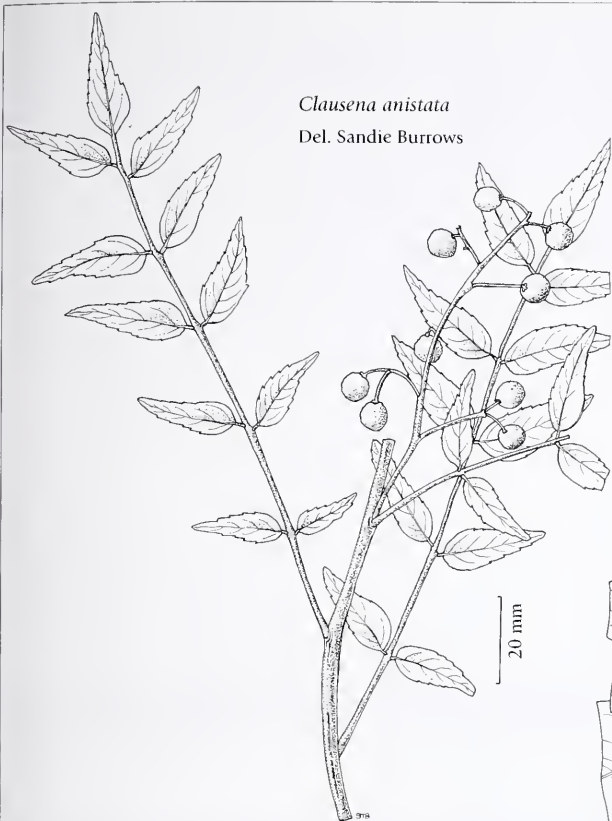
SANTALACEAE

Osiridicarpus schimperianus (Hochst. ex A.Rich.) A.DC. ✧

Thesium schimperianum Hochst. ex A.Rich.; *Osiridicarpus scandens* Engl.

Weak-stemmed scrambling shrub with long slender trailing stems; leaves

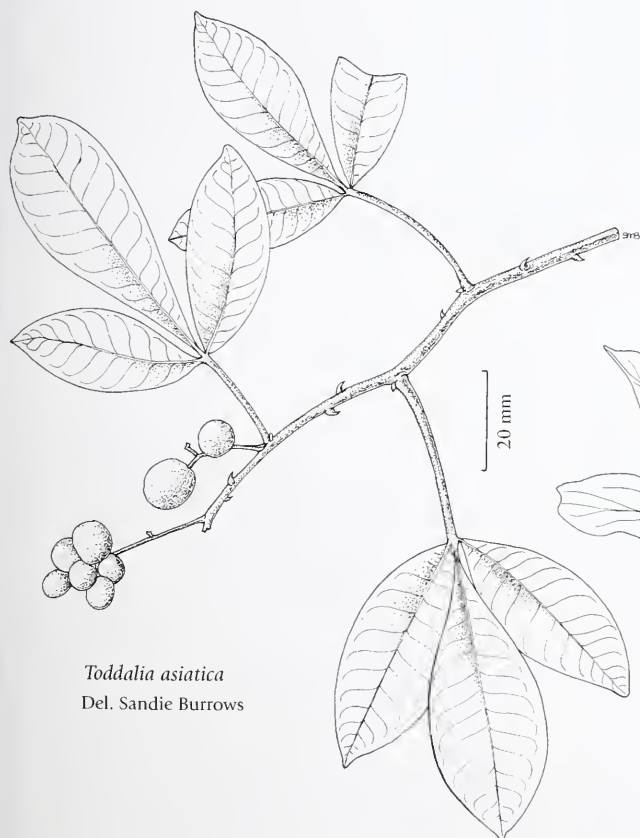
alternate, elliptic, 15–50 × 3–9 mm, becoming bract-like distally; flowers axillary, white to yellowish green, tubular; fruit round, 6–7 mm diameter, crowned with the persistent perianth; scrambling in bush clumps, montane scrub, and forest margins; 1,600–2,200 m. South Africa through eastern



Clausena anistata
Del. Sandie Burrows



Vepris stolzii
Del. Sandie Burrows



Toddalia asiatica
Del. Sandie Burrows



Teclea nobilis
Del. Sandie Burrows

Zanthoxylum chalybeum
Del. Sandie Burrows



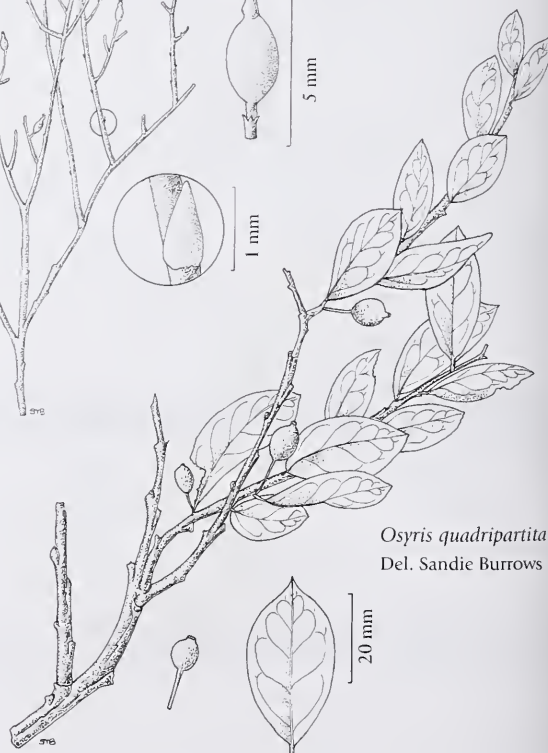
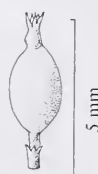
Salix mucronata
subsp. *mucronata*
Del. Maureen Church



Osiridicarpus schimperianus
Del. Sandie Burrows



Thesium fastigiatum
Del. Sandie Burrows



Osyris quadripartita
Del. Sandie Burrows

Africa to Ethiopia.

Source. White *et al.* (2001: 520).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Juniper Forest, 2000, *Chikuni* 515 (MAL).

Zambia. Nyika Plateau, Chowo, *Dowsett-Lemaire* 155 (White *et al.* 2001: 520).

***Osyris quadripartita* Salzm. ex Decn. ✧**

Osyris lanceolata Steudel & Hochst. ex A.DC.; *Osyris compressa* sensu White *et al.* (2001), non (Berg.) A.DC. (1857).

Shrub or small tree 2–7 m tall, branchlets conspicuously ridged; leaves alternate, elliptic to elliptic-oblong, 10–70 × 15–42 mm, glabrous, glaucous; flowers small, in long-stalked axillary groups, yellow-green; fruit flask-shaped, ca 7 × 5 mm, red; in rocky areas in *Brachystegia* woodland, sometimes on forest edges; 1,400–2,350 m. South Africa to Namibia, Zambia, and northwards to Ethiopia.

Source. Brummitt (1973).

Malawi. Nyika National Park, E. foot of Nganda, 1972, *Brummitt & Syngae* 97 (K, MAL, PRE); Juniper Forest, 2000, *Chapama* 213 (MAL).

***Thesium fastigiatum* A.W.Hill ✧**

Perennial shrublet with numerous stems from a woody rootstock, stems ca 300 mm tall, grooved, minutely hairy; stem leaves ovate to elliptic-lanceolate, apiculate; branch leaves subulate; flowers terminal or subterminal on the branches; fruit ovoid, with 5 prominent ribs. Mozambique and Malawi, but we have no modern references for this species and its current

distribution and taxonomic status are uncertain.

Source. *F.T.A.* 6(1): 427 (1913).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Thesium triflorum* Thunb. ex L.f.**

Osyridocarpus linearifolius Engl.; *Osyris angustifolia* Baker

Scandent shrub to 5 m tall (to 0.5 m in South Africa), with branches hanging down in masses; leaves broadly linear to linear-lanceolate; flowers in branched 3- to 7-flowered racemes, small, dull yellow or white; in woodland, riverine forest or evergreen thicket; 2,200 m. South Africa, S. Mozambique, Malawi (Nyika only) and Tanzania.

Source. Brummitt (1972); Retief & Hermann (1997); White *et al.* (2001).

Malawi. Nyika National Park, E. foot of Nganda, 1972, *Brummitt, Munthali & Syngae* 162 (K, MAL, SRGH); E. side of Chelinda Valley, 1958, *Robson & Fanshawe* 642 (White *et al.* 2001: 521).

***Thesium whyteanum* Rendle**

Slender glabrous shrub with branches to 300 mm long; leaves 25 mm or more long, linear-subulate to filiform, more or less terete and channelled in lower leaves, flat higher up; flowers axillary, single; fruit roundish, 10-ribbed. Malawi and Tanzania. We have no modern references of this species and therefore its distribution, as well as its current taxonomic status, is uncertain.

Source. *F.T.A.* 6(1): 415 (1913).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Excluded species

***Thesium* sp.**

Numerous erect stems to 200 mm from rootstock. No other information available.

Source. Brummitt (1973).

Malawi. Nyika National Park, W. foot of Nganda, 1972, *Brummitt, Munthali & Syngae* 38 (K, MAL).

SAPINDACEAE

***Allophylus abyssinicus* (Hochst.) Radlk.**

Tree to 25 m tall, bark smooth, grey-green; leaves 3-foliate, leaflets more or less of equal size or terminal leaflet twice as large as the laterals, minutely hairy when young, hairless with age, usually with hair tufts in the vein axils below; inflorescence to 80 mm long, usually branched; in montane and submontane forest, 1,400–2,200 m. Zimbabwe to Ethiopia and Sudan.

Source. Dowsett-Lemaire (1985: 314).

Malawi. Nyika Plateau, Kasyaula and Zovochipolo, *Dowsett-Lemaire* 357 (OXF).

Zambia. Nyika Plateau, Manyenjere, Kasoma and Chowo Forests, without collecting details (Dowsett-Lemaire 1985); Chowo Forest, *White* 12925 (White *et al.* 2001).

***Allophylus africanus* P.Beauv. ✧**

Chicheva: kandula, msawasawa, sangasi

Shrub or small tree to 10 m, usually less; leaves 3-foliate, leaflets more or less equal or the terminal leaflet up to 1.5 times as long as the lateral pair, more or less hairless or with some hairs below, with tufts of hairs in some vein axils below; inflorescence branched, flowers white, cream or yellow; fruit 4–6 mm diameter, red when ripe; in riverine forest, woodland, thickets, and on termitaria. Throughout tropical Africa. A very variable species, sometimes divided into several species. The Nyika material approaches typical *A. africanus*. The fruit is edible; an infusion of the roots is used as a cure for colds and coughs.

Malawi. Nyika Plateau, 1903, *McClounie* 29 (K); Nyika National Park, without locality or collecting details (Patel 1999).

***Allophylus chaunostachys* Gilg**

Allophylus didymadenius Radlk.; *Allophylus buchananii* Gilg ex Radlk.; *Allophylus richardsiae* Exell

Chicheva: mtsaule

Shrub or small tree to 7 m tall; leaves 3-foliate, leaflets to 140 × 50 mm, margin shallowly to deeply serrate, both surfaces completely glabrous, rarely with tufts of hairs in the vein axils below; flowers small, in an elongate simple or branched inflorescence; in and on margins of montane and riverine

forest; 1,300–2,300 m. South Africa (Mpumalanga), N.E. Zambia, E. D.R.C., and Malawi.

Source. Brummitt (1972); White *et al.* (2001).

Malawi. Nyika National Park, E. foot of Nganda, 1972, *Brummitt, Munthali & Syngae* 86 (K, MAL); Mwanembwe, *White* 12966 (White *et al.* 2001); Juniper Forest, 2000, *Chikuni* 508 (MAL).

Zambia. Nyika Plateau, Kangampande Mt. (Chowo Forest), 1952, *White* 2730 (BM, FHO, K).

***Allophylus congolanus* Gilg**

Yao: mchochoko

Shrub or small tree to 4 m tall, branchlets hairy; leaves 1-foliate or 3-foliate, lateral leaflets, when present, much smaller than the terminal leaflet, hairy on both surfaces; inflorescence to 110 mm long, unbranched; on forest margins, evergreen thicket, and forest regrowth. N. Malawi, Zambia, D.R.C., Tanzania, and Kenya.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Dodonaea viscosa* (L.) Jacq. ✧**

Dodonaea angustifolia L.f.

Chicheva: nandolo; *Yao*: mlaka, nkangamani

Shrub or small tree 4–5 m tall, leaves alternate, hairless, but covered in a shiny sticky secretion; fruit a 2- to 4-winged capsule, reddish when ripe; on forest margins, in scrub, and in woodland; 0–2,000 m. Widespread throughout Africa from the Cape to W. Africa and Ethiopia; also in the Americas and New Zealand.

Source. Brummitt (1973).

Malawi. Nyika Plateau, 5 km N.E. of Nganda, 1972, *Syngae* 289 (K, MAL); Juniper Forest, 2000, *Chikuni* 505 (MAL).

Zambia. Nyika Plateau, Kangampande Mountain (Chowo Forest), 1952, *White* 2571 (FHO, K).

***Filicium decipiens* (Wight & Arn.) Thwaites ✧**

Evergreen tree to 10 m tall; leaves paripinnate, with ca 5 pairs of leaflets,

petiole and rachis markedly winged, wings tapering basally, fruit roundish, 5–8 mm diameter, green turning red; in riverine forest and mid-altitude evergreen forest; below 1,600 m on Nyika on the eastern escarpment. Zimbabwe to Ethiopia; also in Asia and the Pacific.

Source. Dowsett-Lemaire (1985: 362).

Malawi. Nyika Plateau, N. Rukuru Falls (Chisanga Falls), 1,600 m, Dowsett-Lemaire 332 (White et al. 2001).

Paullinia pinnata L. ✧

Timbuka: mkandanguku

Liane to 12 m high, stems appearing to be 3 or 4 fused cylindric stems, bearing paired coiled tendrils arising from the end of the peduncles; leaves imparipinnate with 2–3 pairs of lateral leaflets, petiole and rachis winged; fruit a pear-shaped 3-lobed red capsule; in lowland and mid-altitude forest; 500–1,200 m. Widespread in tropical Africa, southwards to Zimbabwe; also in tropical America and Madagascar.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Excluded species

Deinbollia nyikense Baker

The type of this species is said to have been collected by Whyte both on the Nyika, and between Karonga and Kondowe (near Lake Malawi) in Baker (1897). It has subsequently been collected along Lake Malawi (600 m) in

Mozambique (*Flora zambesiaca* 2(2): 522, 1966) and F.T.E.A. (Sapindaceae: 72, 1998) records it only from dry vegetation types from sea-level to 1,050 m. Whyte's record of it from the Nyika is almost certainly a mis-labelled specimen from that expedition and the epithet *nyikense* is therefore, sadly, misapplied.

SAPOTACEAE

Chrysophyllum gorungosanum Engl. ✧

Chrysophyllum fulvum S.Moore

Chichewa and Timbuka: chifira, chifila; *Sukwa:* mufu

Large evergreen tree, bole fluted in older trees, all parts milky; leaves alternate, more or less clustered at branch tips, oblanceolate to elliptic, entire, dark green above, densely silvery or russet below, 16–21 pairs of prominent parallel veins; flowers small, axillary; fruit round to ellipsoid, russet red, milky fleshy, with 4–5 glossy blackish seeds; in montane and mid-altitude rainforest, often as a common canopy species; 850–2,150 m. Zimbabwe northwards to Cameroon and Kenya. Timber is suitable for building and cabinet-making, but wastage occurs owing to the fluting.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Kasyaula Forest, without collecting details (Dowsett-Lemaire 1985: 314).

Zambia. Nyika National Park, Manyanjere, Kasoma, and Chowo Forests, without collecting details (Dowsett-Lemaire 1985: 314).

Englerophytum magalismontanum (Sond.) T.D.Penn. ✧

Bequaertiodendron magalismontanum (Sond.) Heine & J.H.Hemsl.

Chichewa: chiyira

Small evergreen tree to 10 m tall, stem rather crooked, sap milky; leaves alternate, more or less grouped at branch tips, elliptic to oblanceolate, entire, dark green above, russet felted below, venation inconspicuous; flowers and fruit borne in clusters on the stem and older branches, flowers small, cream, fruit to 18 x 25 mm, red, edible; in riverine forest and on rocky hillsides in woodland; 700–1,800 m. Widespread in southern and tropical Africa.

Malawi. Nyika Plateau, Chisanga Falls, Dowsett-Lemaire 375 (White et al. 2001).

Manilkara discolor (Sond.) J.H.Hemsl. ✧

Mimusops discolor (Sond.) Baill.

Chichewa: mpasa, mtanga; *Timbuka:* sundwe; *Yao:* mkalala

Evergreen tree 3–30 m, all parts milky; leaves tending to be clustered at branch tips, alternate, elliptic to obovate, entire, apex notched, upper surface dark green, glabrous, lower surface densely silvery hairy, venation faintly visible; flowers small, yellow, in axillary clusters; fruit to 13 x 8 mm, hairy, hairless and yellow when ripe, edible; in drier types of montane forest on rocky slopes and in riverine forest; 950–1,800 m. South Africa to Tanzania and Kenya.

Malawi. Nyika Plateau, below Chisanga Falls, 1,600–1,800 m, without collecting details (Dowsett-Lemaire 1985: 361).

Mimusops zeyheri Sond. ✧

Chichewa: mlerekeza, mndyanyande; *Yao:* mkapa

Evergreen tree to 25 m tall, bark roughish, dark brown, all parts milky; leaves alternate, petiole 6–30 mm, lamina mostly elliptic, glossy above, matt, sometimes finely hairy below; flowers in axillary clusters, sweetly-scented; fruit an ellipsoid drupe, with a yellow skin, calyx prominent, edible; in riverine and ravine forest, on rocky hillsides, and on termitaria; 500–1,350 m. Widespread from South Africa to Angola, Zambia, and Tanzania. The unconfirmed Nyika collection below is presumably from one of the lowest altitude points in the northern Park. The fruit is edible and tasty, with a mealy pulp.

Malawi. Nyika National Park, without locality or collecting details (Patel 1997).

Pouteria adolfi-friedericii (Engl.) A.Meeuse subsp. australis J.H.Hemsl. ✧

Aningeria adolfi-friedericii (Engl.) Robyns & G.C.C.Gilbert

Large evergreen or semi-deciduous tree to 45 m tall, bole strongly buttressed, bark mottled grey, all parts milky; leaves alternate, narrowly elliptic to oblong-obovate, minutely pellucid gland-dotted, margins characteristically rolled under, glossy dark green above, lower surface with venation prominent, the veins with russet hairs; flowers in axillary clusters, yellowish, fruit ellipsoid, to 40 mm long, beaked, 1-seeded; a canopy or emergent species of evergreen montane forest; 1,400–2,200 m. Zimbabwe, Malawi, Zambia (Nyika only) and Tanzania. The species as a whole extends to D.R.C. and Ethiopia.

Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests, without collecting details (Dowsett-Lemaire 1985: 314).

Zambia. Nyika Plateau, Manyanjere, Kasoma, and Chowo Forests, without collecting details (Dowsett-Lemaire 1985: 314).

Synsepalum cerasiferum (Welw.) T.D.Penn. ✧

Chrysophyllum cerasiferum (Welw.) Hiern; *Afrosersalisia cerasifera*

(Welw.) Aubrév. ex Heine

Evergreen tree to 25 m, bole deeply fluted lower down, bark grey, longitudinally fissured, scaly; leaves alternate, 30–200 x 12–55 mm, glabrous, lateral nerves obscure above, prominent below; flowers in dense clusters in leaf axils or below leaves; fruit a roundish berry to 20 x 25 mm diameter, seated on a prominent basal cupule and thick stalk; in low to mid-altitude evergreen forest; 500–1,600 m. Widespread in tropical Africa from Malawi and Mozambique to Guinea and Kenya.

Malawi. Nyika Plateau, below Chisanga Falls, without collecting details (Dowsett-Lemaire 1985: 362).

SCROPHULARIACEAE

Alectra sessiliflora (Vahl) Kuntze var. monticola (Benth.)

Hepper

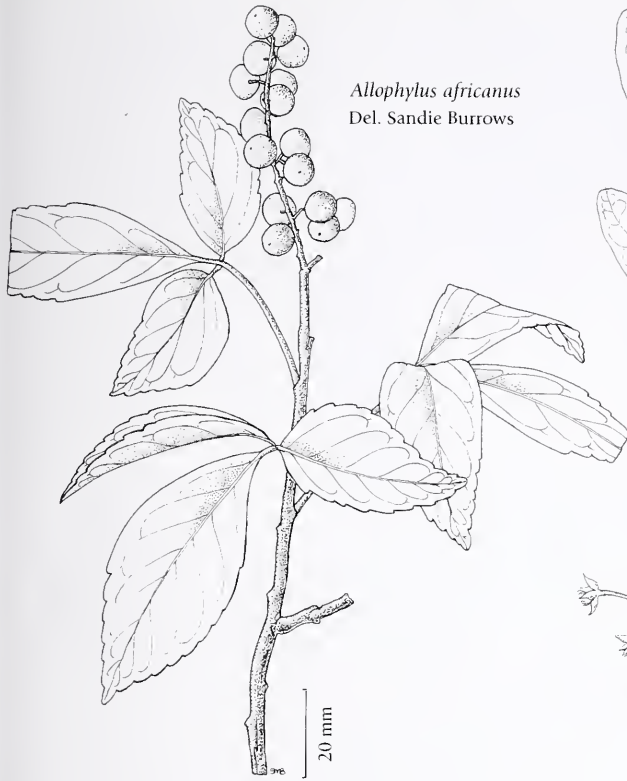
Alectra communis Hemsl.

Erect annual 150–500 mm tall, stems simple or branched, more or less appressed pubescent to subglabrous; leaves opposite, all petiolate, oblong-lanceolate to lanceolate, hairy or not, base rounded to cuneate; flowers

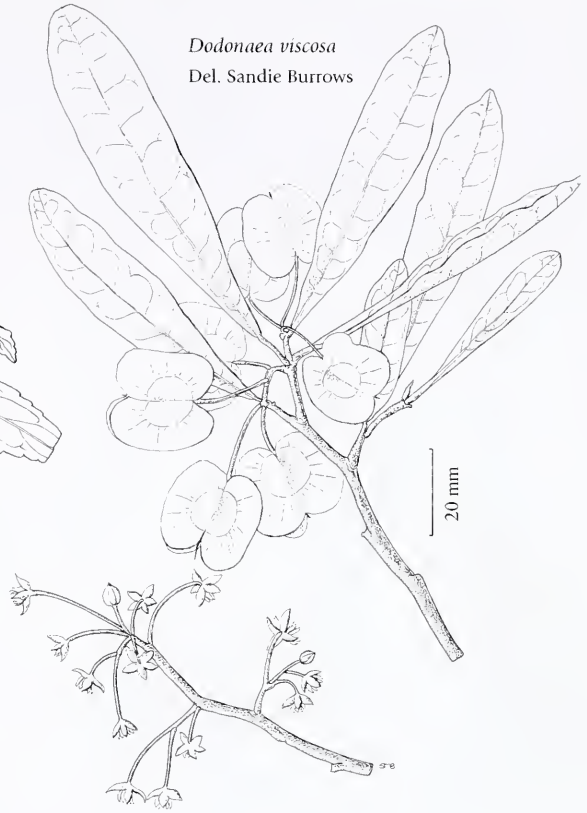
pale yellow to dull orange, calyx ciliate on the nerves and margins; in wet and moist grassland and in open woodland; up to 2,130 m. Widespread in tropical Africa; also through southern Asia to China and the Philippines.

Source. *Flora zambesiaca* 8(2): 88 (1990).

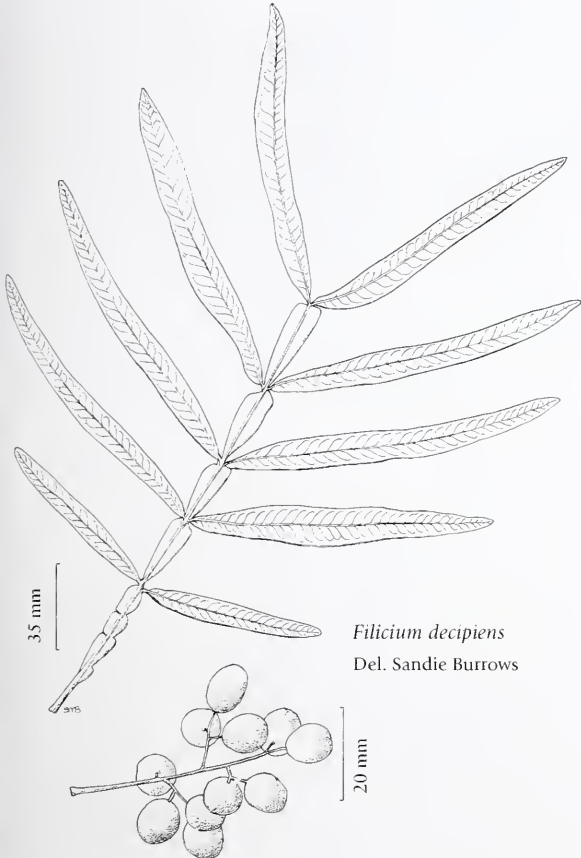
Malawi. Nyika Plateau, Sangule Kopje, 8 km S.W. of Chelinda, 2,280 m, 1970, Brummitt 10734 (K).



Allophylus africanus
Del. Sandie Burrows



Dodonaea viscosa
Del. Sandie Burrows



Filicium decipiens
Del. Sandie Burrows

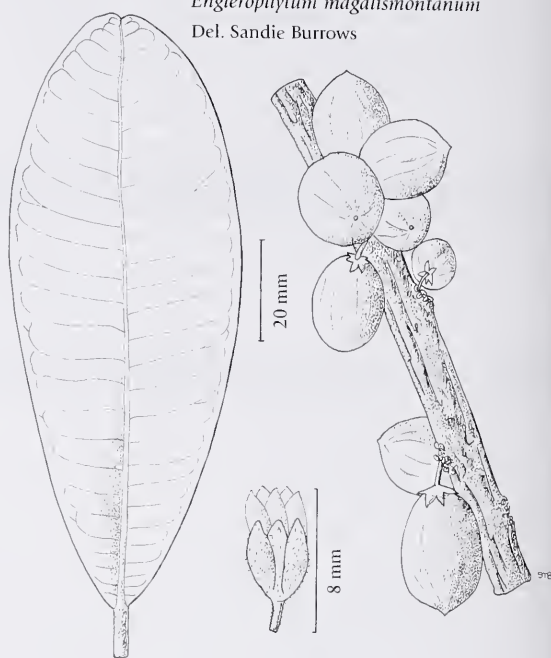


Paullinia pinnata
Del. Julia Loken

Chrysophyllum gorungosanum
Del. Sandie Burrows



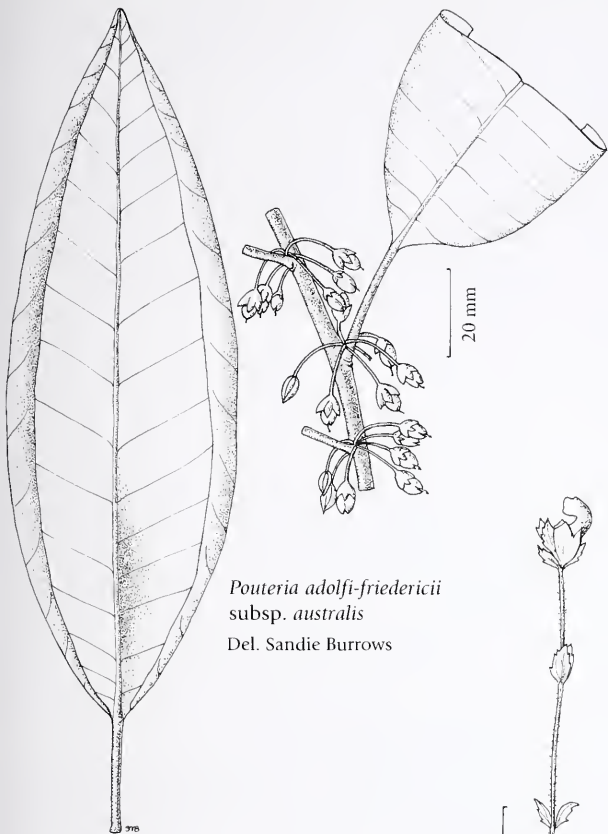
Englerophytum magalismontanum
Del. Sandie Burrows



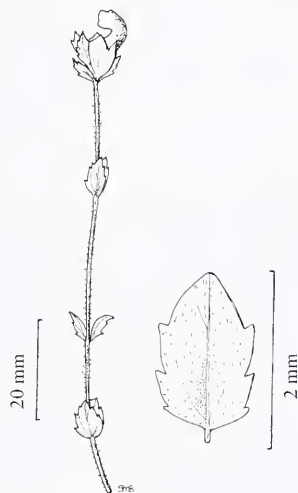
Manilkara discolor
Del. Sandie Burrows



Mimusops zeyheri
Del. Sandie Burrows



Pouteria adolfi-friedericii
subsp. *australis*
Del. Sandie Burrows

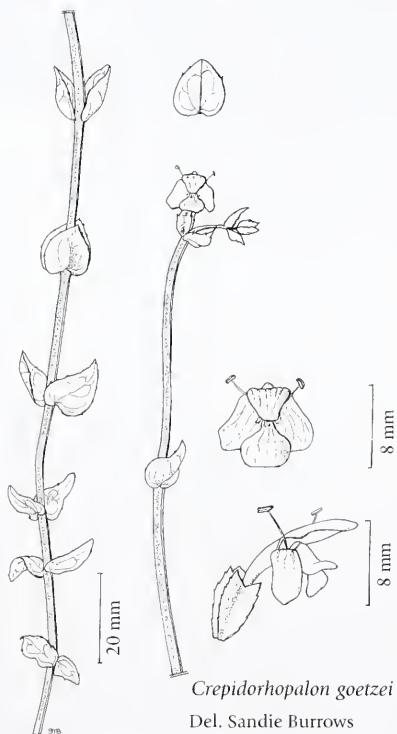


Alectra sessiliflora
var. *senegalensis*
Del. Sandie Burrows



Buchnera cryptocephala
var. *cryptocephala*
Del. Christine Grey-Wilson

Synsepalum cerasiferum
Del. Sandie Burrows



Crepidorhapon goetzei
Del. Sandie Burrows

Alectra sessiliflora (Vahl) Kuntze var. **senegalensis** (Benth.) Hepper ✧

Alectra senegalensis Benth.

As for var. *monticola*, but with the stem densely pubescent with coarse white hairs; leaves sessile or petiolate, lower leaves truncate, rounded or cordate, lamina ovate to almost circular; in wet grassland, *Brachystegia* woodland, streamsides, and lake shores; 0–2,280 m. Botswana and Zimbabwe northwards throughout tropical Africa.

Source. *Flora zambesiaca* 8(2): 88 (1990).

Malawi. Nyika Plateau, 8 km E. of Nganda by Wovwe R., 1972, *Brummitt, Munthali & Syngae WC145* (K).

Buchnera capitata Benth.

Erect annual herb 300–500 mm tall, stems simple, rarely branched above, shortly hairy or hairless; leaves opposite, alternate above, oblong-lanceolate to linear-obovate-oblong, 10–60 × 2–14 mm, subamplexicaul, margins entire to crenate, hispid-scabrid; flowers in terminal, roundish clusters, usually white, occasionally blue, tube hairy without; in swamps, bogs, and marshy grassland; 900–1,800 m. Widespread in tropical Africa; also in Madagascar.

Source. *Flora zambesiaca* 8(2): 100 (1990).

Malawi. Nyika Plateau, nr Mwanembwe Forest, 1981, *Salubeni 3067* (SRGH); Nyika National Park, without locality or collecting details (Patel 1999).

Buchnera crassifolia Engl.

Erect annual herb 200–480 mm, stems mostly branched above, with pale brown hairs; leaves more or less opposite, 8–35 × 1–4 mm, oblong-elliptic to narrowly oblong-ovate, glabrous, shortly ciliate; flowers compact, 15–25 mm long, mauve to magenta, tube hairy without; a near-endemic, known only from submontane grasslands up to 2,400 m, in northern Malawi and the Mafinga Mountains of Zambia.

Source. *Flora zambesiaca* 8(2): 104 (1990).

Malawi. Nyika Plateau, 18 km W. of Nchenachena Mt., 2,400 m, 1952, *White 2593* (BR, K).

Buchnera cryptocephala (Baker) Philcox var. **cryptocephala** ✧

Erect annual herb 200–900 mm tall, stems branched below, leafy throughout, scabrid; leaves opposite or alternate, 12.5–65 × 1.5–13 mm, ovate-elliptic to oblong, 3- to 5-nerved, margins entire, hispid-scabrid; flowers terminal, in compact roundish heads, blue to purple, tube hairless without; in wet grassland, swamps, and woodland; 600–2,300 m. Zimbabwe, Zambia, Malawi, Tanzania, Uganda, and Kenya.

Source. *Flora zambesiaca* 8(2): 99 (1990).

Malawi. Nyika National Park, between Kasaramba and Chelinda, 1967, *Hilliard & Burt 4413* (E, K); Mbuzinandhi, 2000, *Mwanyambo 586* (MAL); Dembo Bridge, 2000, *Thera 3003* (MAL).

Zambia. Nyika Plateau, 2,000 m, 1952, *White 2783* (K).

Buchnera lastii Engl. subsp. **lastii** Philcox

Buchnera similis Skan; *Buchnera tuberosa* Skan

Erect annual or perennial herbs 120–400 mm tall, stems simple or with spreading branches, from a woody rootstock, minutely hairy; leaves more or less opposite, 7–35 × 1–4.5 mm, lanceolate to linear lanceolate, hairless above, hairy or not below; flowers in long slender spikes 35–160 mm long, white, cream, yellow, brown or reddish purple, fragrant, tube hairless without; in montane grassland. Zimbabwe, Mozambique, Malawi, and Zambia.

Source. *Flora zambesiaca* 8(2): 115 (1990)

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Zambia. Nyika Plateau, 1955, *Lees 57* (K).

Buchnera lastii Engl. subsp. **pubiflora** Philcox

As for subsp. *lastii*, but with the flower spikes 180–300 mm long and the flower (corolla) tube hairy without; on hillsides and in montane grassland on rich or poor, rocky or sandy soils; 1,500–2,300 m. Malawi, Zambia, and Tanzania.

Source. *Flora zambesiaca* 8(2): 115 (1990).

Malawi. Nyika Plateau, ca 29 km S.E. of Kasaramba Road, 2,400 m, 1976, *Pawek 11212* (K).

Buchnera nitida Skan

Erect annual herb 160–300 mm tall, stems woody, much-branched, from a woody base, minutely hairy; leaves opposite, with small leafy branches in the axils, 12–20 × 2–4.5 mm, linear-lanceolate, glabrous to slightly glossy; flowers in few-flowered spikes, pinkish-mauve to white, tube hairless without; habitat not recorded. Near-endemic, known only from the Nyika Plateau and the Mafinga mountains in Zambia, a short distance to the N. of Nyika. McClounie collected the type on his survey of northern Malawi in September 1903 and it is assumed to have been collected on Nyika, which he crossed during this period.

Source. *Flora zambesiaca* 8(2): 105 (1990).

Malawi. Without locality (see notes above), 1903, *McClounie 123* (K, holo.).

Buchnera nuttii Skan

Erect perennial shrublet to 1.5 m tall, stems branched in upper parts, branches spreading, hispid-scabrid-pilose; leaves more or less opposite, 18–50 × 2–10 mm, lanceolate, entire to toothed, hairy to hispid-scabrid; flowers in dense axillary heads to 40 × 25 mm, white, occasionally lavender, with a bluish tube, lobes bordered mauve or blue, tube hairless without; in grassland and miombo woodland; 1,300–1,980 m. Malawi, Zambia, Tanzania, and Kenya.

Source. *Flora zambesiaca* 8(2): 100 (1990).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Buchnera peduncularis Brenan

Erect annual herb 200–450 mm tall, stems slender, usually simple, glabrous; leaves opposite, 6–20 × 0.5–4 mm, oblong-lanceolate, entire, hairy above, scabrid-hispid below; flowers in more or less cylindric spikes 5–15 mm long, blue to mauve or purple; in *Brachystegia* woodland, open grasslands, and sandy areas; 1,200–1,350 m. Known also from D.R.C.

Source. *Flora zambesiaca* 8(2): 102 (1990).

Malawi. Nyika Plateau, Nchenachena, 1,340 m, 1946, *Brass 17371* (K, holo., BR, NY, SRGH, iso.).

Buchnera quadrifaria Baker

Erect annual herb 200–680 mm, stems simple or not, quadrangular, glabrous or scabrid on angles; leaves opposite or alternate, 5–14 × 0.75–1 mm, linear to subulate, glabrous or scabrid; flowers in broad quadrangular spikes 10–27 mm long, blue to purple or white, tube glabrous or glandular; in bogs, marshes, and damp grassland, also open woodland; 1,250–2,300 m. Malawi, Zambia, D.R.C., Burundi, and Tanzania.

Source. *Flora zambesiaca* 8(2): 103 (1990)

Malawi. Nyika National Park, without locality, 6,000'–7,000', 1896, *Whyte 146* (K); Juniper Forest edge, 7,300', 1969, *Pawek 2094* (K).

Zambia. Nyika Plateau, 1966, *Fanshawe 9743* (K, SRGH); S. of Zambian Rest House, 1989, *Goyder, Pope & Radcliffe-Smith 3250* (K).

Buchnera randii S.Moore

Erect annual herb 100–750 mm tall, stems slender, simple or branched above, hairy-hispid; basal leaves (where present) ovate to obovate-oblong, to 35 × 15 mm, cauline leaves opposite, narrowly linear to linear-obovate, 9–70 × 3–12 mm, entire to toothed, hispid; flowers in terminal or lateral spikes 5–38 mm long, pale blue to purple, or white, tube hairy without; in grassland or open woodland; 600–1,650 m. South Africa, Botswana, Zimbabwe, Mozambique, Malawi, Zambia, and Tanzania.

Source. *Flora zambesiaca* 8(2): 106 (1990).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Buchnera rungweensis Engl.

Erect annual herb 160–360 mm tall, stems more or less simple, one to several from a rootstock, hairy; leaves opposite, 12–32 × 1.5–4 mm, narrowly elliptic-ovate, hairless above, densely hairy below; flowers in compact spikes 14–40 mm long, pale lilac to mauve or purple, tube shortly

hairy without; in montane grassland; 1,800–2,750 m. Known only from northern Malawi and Tanzania.

Source. *Flora zambesiaca* 8(2): 105 (1990).

Malawi. Nyika Plateau, between Kasaramba and Chelinda, 1967, *Hilliard & Burt* 4411 (K).

Buchnera speciosa Skan

Perennial woody herb or shrub 0.6–2 m tall, branches more or less opposite, spreading; leaves more or less opposite, 30–60 × 3–8.5 mm, lanceolate to oblanceolate, narrowed to a petiole-like base, white-hairy on both surfaces; flowers in long spikes to 300 mm long, white, tube hairless without; in grassland (especially in wetter areas), montane and open woodland, and swamp forests; from 975–2,150 m. Zimbabwe, Mozambique, Malawi, Zambia, and Tanzania.

Source. *Flora zambesiaca* 8(2): 120 (1990).

Malawi. Nyika Plateau, 1896, *Whyte* s.n. (K, lecto.).

Zambia. Nyika Plateau, ca 4 km from Rest House, 2,150 m, 1958, *Robson* 257 (BM, K, LISC, SRGH).

Buchnera trilobata Skan

Erect annual herb 135–500 mm tall, stems simple, rarely branched above, hispid; leaves opposite, cauline leaves lanceolate to elliptic, scabrid-hispid, basal leaves (where present) roundish with a pseudopetiole; flowers in spikes 5–25 mm long, pink, pinkish purple to mauve or white, tube hairy without; in montane grassland and miombo woodland; to 2,500 m. Known only from Malawi and Zambia.

Source. *Brummitt* (1973); *Flora zambesiaca* 8(2): 102 (1990).

Malawi. Nyika Plateau, 1903, *McClounie* 55 (K, lecto.); head of Mondwe Valley, 1972, *Brummitt & Syge* 240 (K, MAL, PRE); 4 km W.N.W. of Muzengapakweru, 2,285 m, 1972, *Syge* WC307 (BR, K, SRGH).

Crepidorrhodon goetzei (Engl.) Eb.Fisch. ✧

Torenia goetzei (Engl.) Hepper; *Craterostigma goetzei* Engl.; *Torenia brevifolia* Engl. & Pilger

Straggly creeping or ascending perennial herb, stems 4-angled, hairless; leaves opposite, sessile, 5–17 × 3–15 mm, ovate to ovate-oblong, 3- to 5-nerved, margins subentire to shallowly toothed; flowers few in lax spike-like racemes, calyx glabrous, nerves winged, corolla blue to purple; in marshes, bogs, and streambanks; 670–2,255 m. Malawi, Zambia, D.R.C., Burundi, and Tanzania.

Source. *Flora zambesiaca* 8(2): 59 (1990); *Lebrun & Stork* 4: 428 (1997).

Malawi. Nyika National Park, Lake Kaulime, 1958, *Robson & Angus* 281 (BM, K, LISC, SRGH); 2000, *Burrows & Burrows* 6862 (MAL, PRE).

Zambia. Nyika National Park, near Govt. Rest House, 1959, *Richards* 10405 (BR, K).

Crepidorrhodon insularis (Skan) Eb.Fisch.

Lindernia insularis Skan

Erect to spreading annual, simple or branched, stems 4-sided; leaves opposite, more or less sessile, 8–18 × 3.5–13 mm, broadly ovate to elliptic-oblong, margins more or less entire to shortly dentate; flowers in lax terminal or terminal racemes, stalks 0.5–3 mm long, corolla yellow, orange or white; in open grassland and woodlands, on wet sandy or peaty soils; up to 1,700 m. Zimbabwe and Mozambique to Malawi, Zambia, Burundi, Tanzania, Uganda, and Kenya.

Source. *Flora zambesiaca* 8(2): 63 (1990); *Lebrun & Stork* 4: 428 (1997).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Cycnium adonense E.Mey. ex Benth. ✧

Prostrate to erect perennial herb with a woody tuber, stems, leaves and calyx hispid-scabrid or hairy; flowers single or in racemes, white, aging to pink and dark purple, showy; in montane grasslands, open woodlands, forest edges, and occasionally streambanks; 610–2,400 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 8(2): 140 (1990).

Malawi. Nyika Plateau, 7 km N.W. of Lake Kaulime, 2,135 m, 1970, *Brummitt* 10816 (K); Runyina River, 2000, *Phiri* 3814 (UZL).

Zambia. Near Zambian Rest House, 7,500', 1967, *Richards* 22429 (UZL).

Diclis ovata Benth.

Prostrate annual herb, stems minutely pubescent; leaves petiolate, broadly ovate, shallowly dentate to denticulate, sparsely and minutely pubescent to more or less hairless above, somewhat hairier below; flowers axillary, single, white to cream, spur straight, 0.4–1.0 (1.8) mm long; a weed of cultivation, damp woodland tracks, riversides, and occasionally open savannas; 750–2,400 m. Zimbabwe and Mozambique to Angola, W. Africa, Ethiopia, and Sudan; also in Madagascar and the Mascarenes.

Source. *Flora zambesiaca* 8(2): 12 (1990).

Malawi. Nyika Plateau, Kafwimba Forest, 1,875 m, 1973, *Pawek* 6694 (K); Fingira Rock, 2000, *Winter* 4231 (MAL).

Diclis tenella Hemsl. ✧

Prostrate or creeping annual herb, stems softly villous; leaves petiolate, very broadly ovate to roundish, margins coarsely serrate-dentate, villous above and below; flowers solitary, axillary, white to pale pinkish, spur distinctly curved, 2–8 mm long; in grassland and forested areas, in shelter of rock overhangs, cave mouths, and rock crevices; 850–1,900 m. Zimbabwe, Mozambique, Malawi, and Tanzania.

Source. *Flora zambesiaca* 8(2): 12 (1990).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Digitalis purpurea** L. ✧

foxglove

Tall biennial or perennial herb to 1 m or more, basal leaves long petiolate, lanceolate-ovate, 75–150 mm long; flowers in a raceme of 15–50 flowers, corolla 40–45 mm long, 4-lobed, pale purple (occasionally white), spotted with crimson; a naturalised weed, escaped from cultivation. Native to Europe and the Mediterranean region.

Source. *Flora zambesiaca* 8(2): 77 (1990).

Malawi. Nyika Plateau, Chelinda area, 2,250 m, 1967, *Richards* 22685 (K).

Gerardiina angolensis Engl. ✧

Annual or perennial herb 350–800 mm tall, stems simple, 4-angled; leaves opposite, erect or appressed to stem, 60–110 × 2.5–19 mm, linear-lanceolate, scabrid, margins entire; flowers opposite at apex of stems, bracteate, bell-shaped, 18–30 mm long, pink to purple or blue, occasionally white; riversides, wet grassland, and open forest; 1,200–2,350 m. South Africa to Angola, D.R.C., Burundi, and Tanzania. *Gerardiina* is a monotypic genus confined to tropical Africa.

Source. *Flora zambesiaca* 8(2): 156 (1990).

Malawi. Nyika Plateau, Lake Kaulime, 2,250 m, 1959, *Richards* 10447 (BR, K).

Graderia scabra (L.f.) Benth. ✧

Erect to procumbent perennial herb from a woody rootstock, stems branching near base, 4-angled above; leaves more or less opposite or alternate, 1–22 × 4–17 mm, scabrid-hispid; flowers axillary, funnel-shaped, purple, mauve or pink, 5-lobed; in montane grassland; 1,500–2,400 m. From South Africa along the eastern mountain chain to Tanzania.

Source. *Flora zambesiaca* 8(2): 151 (1990).

Malawi. Nyika Plateau, Kasaramba, 2,250 m, 1967, *Richards* 22573 (K).

Halleria lucida L. ✧

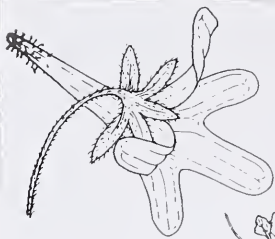
Small tree or shrub to 10 m tall, bark brown, longitudinally fissured, young stems reddish; leaves 45–100 × 20–62 mm, glabrous, dark green above, paler below; flowers in clusters in old leaf axils, on branches or on stems, orange-yellow to brownish red, tube curved, 25–33 mm long; fruit a round berry 10–18 mm diameter, reddish to purplish when ripe, flesh with many black seeds; in montane forest, on forest margins, in secondary forest growth, and in riverine forest; 1,400–2,450 m. From South Africa to Angola, Ethiopia, and Yemen.

Source. *Flora zambesiaca* 8(2): 16 (1990); *White et al.* (2001: 549).

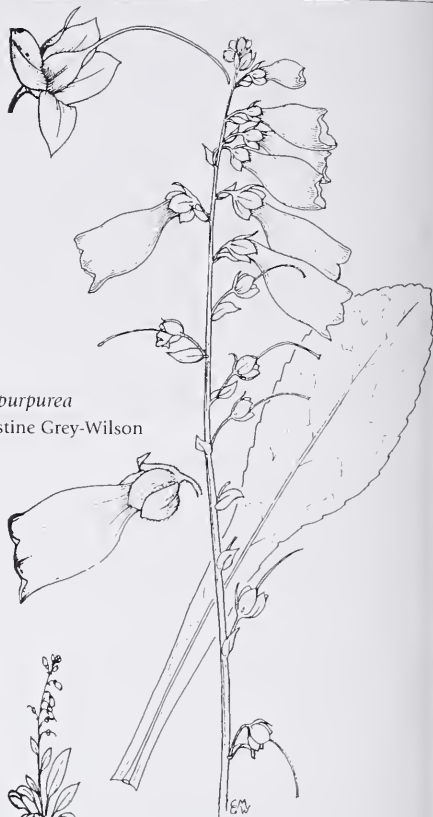
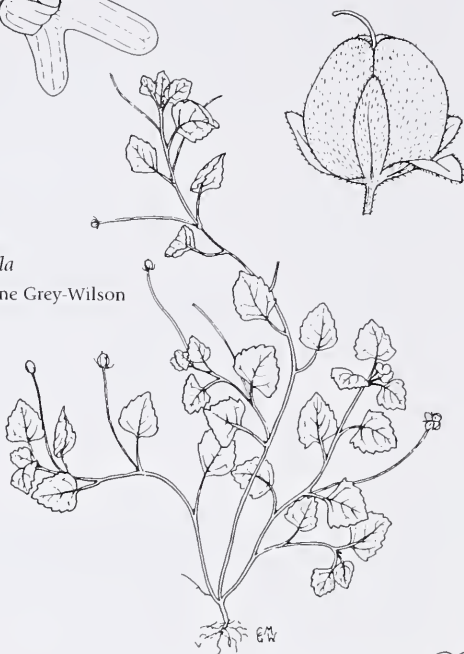
Malawi. Nyika Plateau, 4 km W.N.W. Muzengapakweru, 2,210 m, 1972, *Syge* WC318 (K, SRGH); Juniper Forest, *Lawton* 1296 (*White et al.* 2001).

Hedbergia abyssinica (Hochst. ex Benth.) Molau ✧

Bartsia abyssinica Hochst. ex Benth.; *Alectra abyssinica* (Benth.) A.Rich;



Diclis tenella
Del. Christine Grey-Wilson



Digitalis purpurea
Del. Christine Grey-Wilson



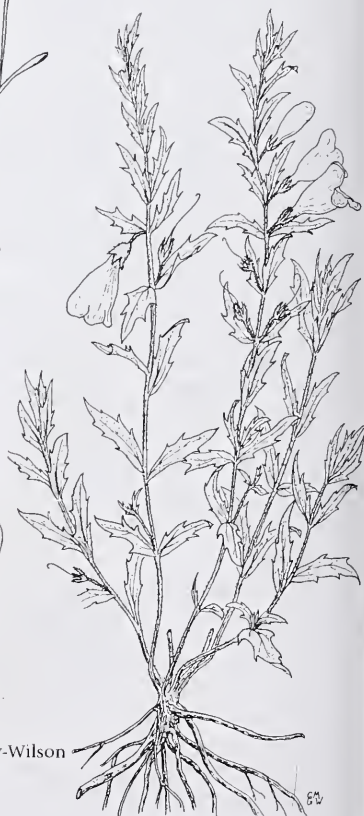
Gerardiina angolensis
Del. Christine Grey-Wilson

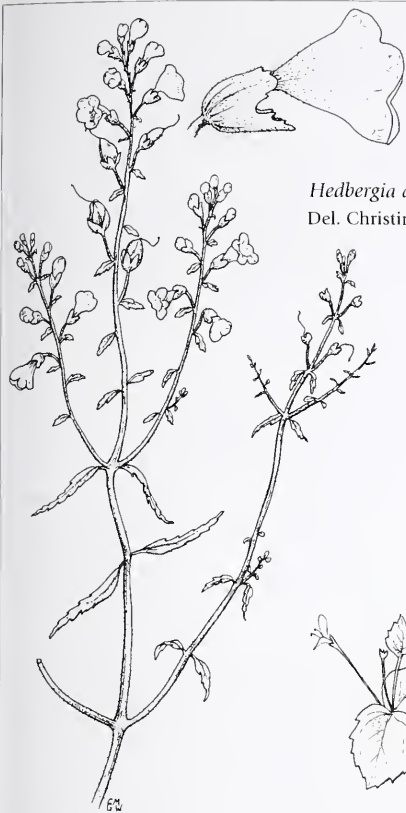


Limosella australis
Del. Christine Grey-Wilson



Graderia scabra
Del. Christine Grey-Wilson



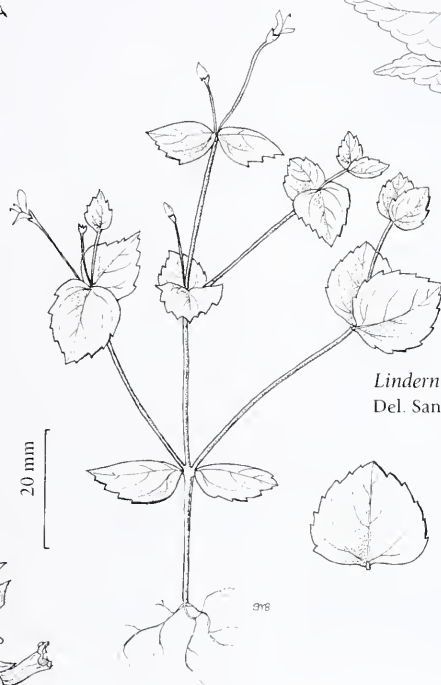


Hedbergia abyssinica
Del. Christine Grey-Wilson



Halleria lucida
Del. Sandie Burrows

20 mm



Lindernia nummularifolia
Del. Sandie Burrows

20 mm

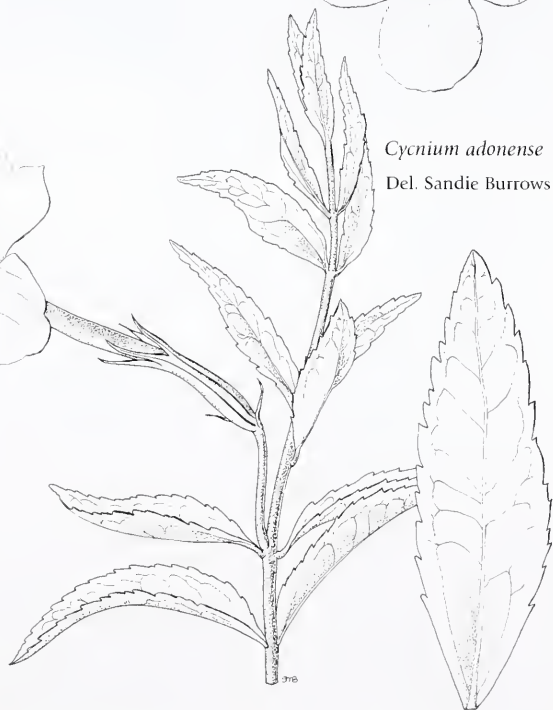
Melasma calycinum
Del. Christine Grey-Wilson



Cycnium adonense
Del. Sandie Burrows



20 mm



Erect or scrambling perennial herb from a woody rootstock, with several much-branched hairy stems; leaves opposite, more or less sessile, thick, rigid, spreading, 3–12 x 1–2 mm, margins serrate to crenate; flowers single, alternate, axillary, white to pale pink or purplish, bell-shaped, equally 5-lobed; in open grasslands or on forest margins; 2,150–2,440 m. Nyika Plateau northwards to Nigeria, Ethiopia, Sudan, and Kenya. A monotypic genus confined to tropical Africa.

Source. *Flora zambesiaca* 8(2): 156 (1990).

Malawi. Nyika Plateau, below Sangule Kopje, 7 km S.W. of Chelinda Camp, 2,255 m, 1970, *Brummitt 10759* (K, SRGH).

Zambia. Nyika Plateau, near source of Chire River, 2,135 m, 1952, *White 2748* (K).

No country given. 1955, *Lees 72* (UZL).

Limosella australis R.Br. ✧

Limosella subulata Ives

Small creeping or submerged tufted amphibious herb; leaves cylindrical or subulate (awl-shaped), 15–80 x 0.3–15 mm; flowers white, blue beneath, on stalks 5–35 mm long; fruit a round capsule 2–2.5 mm diameter; in shallow lakes or on muddy lakesides; up to 2,340 m in the *Flora zambesiaca* area. Zimbabwe and Malawi; also in N. America, Europe, Australia.

Source. *Flora zambesiaca* 8(2): 73 (1990).

Malawi. Nyika Plateau, Lake Kaulime, 2,150 m, 1958, *Robson & Angus 320* (K, LISC, SRGH).

Lindernia nummulariifolia (D.Don) Wettst. ✧

Erect annual herb 30–140 mm tall, stems simple or basally branched; leaves subsessile, ovate, ovate to round, 9–15 x 5–13 mm, margins serrate to crenate, lower surface with a few hairs; flowers single in axils, stalks 3–14 mm long, corolla blue to violet, ca 6 mm long; fruit a round to cylindric, beaked capsule; on wet soils in marshes and riversides, in crevices on granite outcrops; up to 1,600 m. From Zimbabwe through much of tropical Africa; also through southern Asia to China.

Source. *Flora zambesiaca* 8(2): 65 (1990).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Dembo Bridge, 2000, *Winter 4032* (MAL, PRE, UZL).

Melasma calycinum (Hiern) Hemsl. ✧

Velutisia calycina Hiern

Erect perennial herb to 0.75 m tall, stems leafy, simple, rarely branched; leaves opposite, ovate to ovate-lanceolate, 25–67 x 7–28 mm, margins crenate to toothed or lobed, hispid-scabrid on both surfaces; flowers alternate or clustered terminally, yellow to orange or white with reddish or purplish veining, 5-lobed; in swamps, marshes, and wet grassland along rivers; 1,200–2,250 m. Zimbabwe, Malawi, Zambia, and Angola.

Source. *Flora zambesiaca* 8(2): 84 (1990).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Rhamphicarpa fistulosa (Hochst.) Benth. ✧

Macrosiphon fistulosus Hochst.

Erect, branched annual herb 50–500 mm tall; leaves pinnatisect, the segments filiform, less than 1 mm wide; flowers solitary, stalk 9–20 mm long, corolla white, cream, pale pink or pale blue, 5-lobed, with a tube 25–30 mm long; on peaty soils over sheetrock, on or between rocks in shallow, slow-running rivers or streams, but more frequently near rivers and in grassy swamps; 600–1,750 m. Widespread from W. Africa, Chad, and Sudan, through Central and E. Africa S. to South Africa; also in Madagascar, New Guinea, and Australia.

Source. *Flora zambesiaca* 8(2): 135 (1990).

Malawi. Nyika Plateau, 1903, *McClounie 96* (K).

Sibthorpia europaea L. ✧

Sibthorpia prostrata Salisb.; *Sibthorpia europaea* var. *africana* Hook.; *Sibthorpia australis* Hutch.

Prostrate, creeping herb, rooting at nodes, all parts hairy; leaves roundish, deeply cordate, 5–15 mm diameter, petioles 5–30 mm long; flowers single, small, in leaf axils, stalks 2–5 mm long, corolla to 2 mm long, yellow to purple; on streamsides, river-banks, and moist areas, usually in shade; up to 2,150 m. Zimbabwe and Zambia; also in Europe and the Azores, and

from Ethiopia to Tanzania.

Source. *Flora zambesiaca* 8(2): 75 (1990).

Zambia. Nyika Plateau, below Rest House on path to N. Rukuru (Chisanga) Waterfall, 2,150 m, 1958, *Robson 402* (K).

Sopubia eminii Engl.

Sopubia trifida sensu Skan in F.T.A.

Delicate erect, scabrid, annual herb, stems simple to much-branched basally, obscurely angled; upper leaves undivided with the lower leaves trifid or 5-fid; flowering stalks 5–9 mm long, flowers yellow or white with a purple centre, calyx lobe margins only slightly woolly; in woodland, grassy places, and hillsides; up to 2,300 m. Zimbabwe, Zambia, Malawi, Tanzania, Kenya, and Uganda.

Source. *Flora zambesiaca* 8(2): 146 (1990).

Malawi. Nyika Plateau, S. of Chelinda above Mwenyenyesi Dam, 2,200–2,300 m, 1977, *Grosvenor & Renz 1126* (K, SRGH).

Sopubia karaguensis Oliv. var. **karaguensis**

Sopubia welwitschii Engl. var. *micrantha* Engl.; *Sopubia fastigiata* Hiern. Erect robust perennial herb to 1 m tall, stems pubescent to long-pilose or more or less hairless; leaves undivided or 3- to 5-fid, often with smaller leaves in axils, hairy and scabrid; flowering stalks 0–6.5 mm long, flowers pink, mauve or purple, outer calyx densely woolly, 6–11 mm long; in damp areas; up to 1,450 m. Zimbabwe, Mozambique, Malawi, Zambia, Tanzania, Kenya, and Uganda.

Source. *Flora zambesiaca* 8(2): 149 (1990).

Malawi. Nyika National Park, near base of Nganda mountain, 1977, *Grosvenor & Renz 1155* (K, SRGH); Mbuzinandji, 2000, *Salubeni & Mwanyambo 6813* (MAL); without locality or collecting details (Patel 1999).

Sopubia mannii Skan var. **mannii** (Engl. & Gilg) Hepper ✧

Erect, rigid, scabrid branched herb 0.2–1.5 m tall, stems very leafy, arising from a woody rootstock; leaves linear to filiform, undivided, closely arranged on stem, midrib often obscure; flowering stalk 2–10 mm long, flowers pink to mauve to purple, calyx hairy; in grassland; 1,500–2,600 m. Zimbabwe, Mozambique, Zambia, Malawi, Tanzania, Uganda, Tanzania, Ivory Coast, and Cameroon.

Source. *Flora zambesiaca* 8(2): 144 (1990).

Malawi. Nyika Plateau, Nganda Peak, 2,600 m, 1969, *Pawek 2074* (K).

Sopubia mannii Skan var. **tenuifolia** (Engl. & Gilg) Hepper

Sopubia dregeana var. *tenuifolia* Engl. & Gilg; *Sopubia trifida* forma *humilis* Engl. & Gilg

As for var. *mannii*, but with the leaves undivided or 3- to 5-fid, more openly arranged, and the flowering stalks 12–18 mm long; in wet and dry grassland, bordering rivers, and among rocks; 1,000–2,500 m. Mozambique, Zimbabwe, and Botswana northwards to Angola, Zambia, Uganda, and Kenya; also in Sierra Leone.

Source. *Flora zambesiaca* 8(2): 145 (1990).

Malawi. Nyika Plateau, 25.6 km E. of Rest House, 2,438 m, 1957, *Boughey 1635* (K).

Sopubia ramosa (Hochst.) Hochst.

Sopubia similis Skan in F.T.A.

Erect, scabrid, much-branched perennial shrublet, stems branching, densely hairy; leaves linear to lanceolate, undivided or trifid, scabrid, midrib prominent below; flowering stalks 1.5–4.5 mm long; flowers pink, lilac or lavender, calyx shortly scabrid-pubescent without; on forest margins, in open woodland or grassy hillsides and plains; from almost sea level in Mozambique to over 2,200 m. Zimbabwe and Mozambique, though Central and W. Africa, to Sudan and Ethiopia.

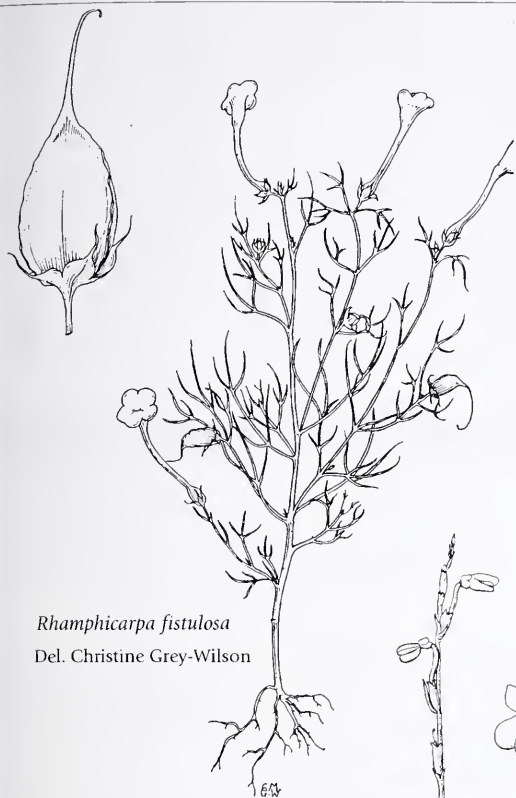
Source. *Flora zambesiaca* 8(2): 145 (1990).

Malawi. Nyika National Park, Dembo Bridge, 2000, *Thera 3002* (MAL); Chosi Viewpoint, 2000, *Mwanyambo 482* (MAL).

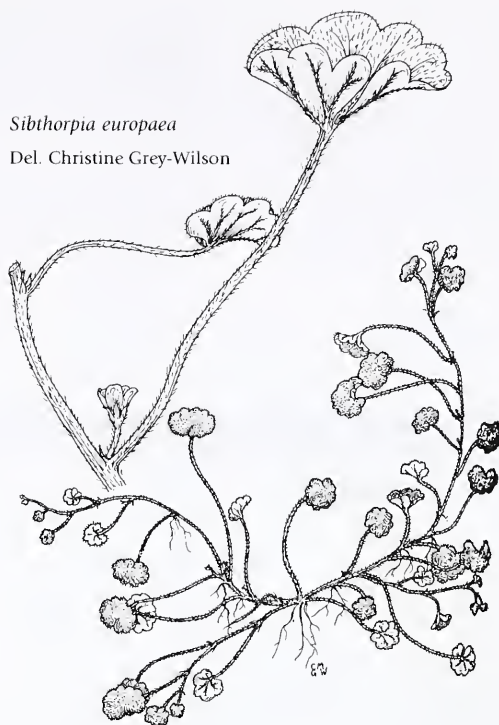
Zambia. Lundazi District, Nyika Plateau, Kangampande Mt. (Chow area), 2,130 m, 1952, *White 2743* (BR, K).

Sopubia simplex (Hochst.) Hochst.

Sopubia dregeana Benth., nom. illeg.



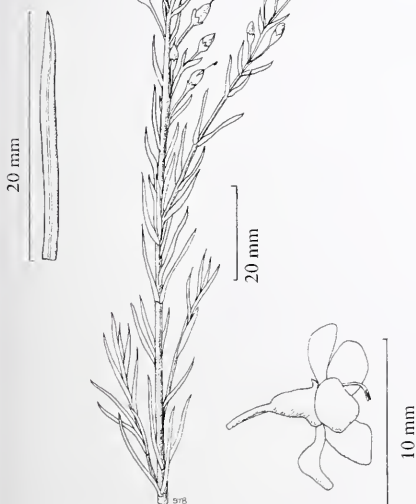
Rhamphicarpa fistulosa
Del. Christine Grey-Wilson



Sibthorpia europaea
Del. Christine Grey-Wilson



Striga asiatica
Del. Sandie Burrows



Sopubia mannii var. *mannii*
Del. Sandie Burrows



Veronica abyssinica
Del. Christine Grey-Wilson

Erect perennial herb to 450 mm tall, stems several, from a woody base, angled, many-ribbed; leaves few, narrowly linear, undivided, more or less appressed to the stem; flowers pink, pale mauve or lilac, flowering stalk 6–13 mm long, calyx verrucose to hispid, lobes woolly on margins only; mostly in burnt or moist grassland, river-banks, swamps or marshes; 600–2,280 m. From South Africa northwards throughout most of tropical Africa.

Source. *Flora zambesiaca* 8(2): 144 (1990).

Malawi. Nyika National Park, 6 miles S.W. of Rest House, 2,150 m, 1958, *Robson & Angus* 362 (K); Domwe Viewpoint, 2000, *Salubeni & Mwanyambo* 6796 (MAL); Juniper Forest area, 2,250 m, 1967, *Richards* 22657 (K).

Zambia. Nyika Plateau, without locality, 2,100 m, 1955, *Lees* 103 (K).

***Striga asiatica* (L.) Kuntze ❖**

Sparsely branched herb 150–200 mm tall, branching from above the middle, densely glandular-sticky; leaves ascending, 8–16 mm long, <1 mm wide; flowers a spike, opposite or alternate, corolla scarlet on inside, yellowish

on outside; fruit a capsule 7 x 2 mm; a parasite on the roots of grasses, including cereals such as maize, Tropical Africa eastwards to China; introduced to N. America.

Malawi. Nyika National Park, Thazima Gate, 2000, *Burrows & Burrows* 6822 (PRE).

***Veronica abyssinica* Fresen. ❖**

Prostrate annual herb with trailing or ascending branches, often rooting at nodes, stems hollow, hairy; leaves opposite, petiolate, 15–45 x 10–36 mm, coarsely serrate-crenate; flowers in axillary racemes, blue, 6–7 m long; in damp grassland, forest margins and clearings, and roadsides; up to 2,400 m. Zimbabwe northwards through much of tropical Africa.

Source. *Flora zambesiaca* 8(2): 63 (1990)

Malawi. Nyika Plateau, ca 29 km S. of Chilindi (Chelinda), 1977, *Phillips* 2296 (K, SRGH); Dembo Bridge, 2000, *Winter* 4033 (MAL, PRE); Nyika National Park, without locality or collecting details (Patel 1999).

Excluded species

***Buchnera henriquesii* Engl.**

A western species recorded from Angola, Zambia, and Zimbabwe, not occurring in Malawi.

Source. *Flora zambesiaca* 8(2): 123 (1990).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Buchnera ruwenzoriensis* Skan**

This species is only recorded from Zambia (Mufulira and Mbala) from within the *Flora zambesiaca* region (Philcox in *Flora zambesiaca* 1990). Because Philcox's review was carried out after Mill's work, it is assumed that this record was found to belong to a different species.

Source. *Flora zambesiaca* 8(2): 108 (1990).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Crepidorrhodon bifolius* (Skan) Eb.Fisch.**

Lindernia bifolia Skan

This species 'is differentiated from *L. insularis* only with difficulty.' (*Flora zambesiaca* 8(2): 64, 1990), and, since *Crepidorrhodon* (*Lindernia*) *bifolius*

is only recorded from Zambia and, since we have no way of confirming the identity of this record, it is here excluded as a possible misidentification.

Source. *Flora zambesiaca* 8(2): 63 (1990); Lebrun & Stork 4: 428 (1997).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Halleria elliptica* Thunb.**

Both *Flora zambesiaca* (1990) and White *et al.* (2001) indicate that this species' northernmost occurrence is Mt. Mulanje in southern Malawi and, since we have not been able to confirm the identity of this record, it is excluded here.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Sopubia angolensis* Engl.**

This species is known only from Zimbabwe and Angola (*Flora zambesiaca* 8(2): 147, 1990) and it seems likely that this record represents a misidentification.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

SELAGINACEAE

***Hebenstretia angolensis* Rolfe ❖**

Perennial shrublet with erect much-branched stems 0.3–1.5 m tall; leaves linear to linear-lanceolate, margins entire or slightly toothed, glabrous; flowers in spikes, white with orange or red-brown in the throat; in montane and submontane grassland; to 3,000 m. Ethiopia and Eritrea southwards through E. Africa to South Africa and Angola.

Source. *Flora zambesiaca* 8(2): 163 (1990).

Malawi. Nyika Plateau, 1967, *Salubeni* 720 (K, LISC, SRGH).

Zambia. Nyika Plateau, near source of Chire River, 1952, *White* 2564 (K).

***Hebenstretia comosa* Hochst.**

Hebenstretia elongata Bolus ex Rolfe; *Hebenstretia comosa* var. *integrifolia* Rolfe

Perennial shrublet with simple erect stems (or branching from the base) 150–600 mm tall; leaves elliptic-lanceolate, margins entire or toothed above, glabrous; flowers in spikes, white with an orange throat; in montane grassland; 1,350–2,450 m. South Africa northwards through Zimbabwe and Mozambique to the Nyika Plateau, its northernmost limit.

Source. *Flora zambesiaca* 8(2): 163 (1990).

Malawi. Nyika Plateau, Mupopo Area, 2,250 m, 1967, *Richards* 22607 (K, P).

Zambia. Nyika Plateau, near Chelinda, 2,135 m, 1955, *Lees* 118 (K, UZL).

***Selago caerulea* Rolfe**

Selago tenuicaulis Rolfe; *Selago thomsonii* Rolfe var. *caerulea* (Rolfe) Brenan

Perennial shrublet with several tufted hairy stems 150–300 mm long, from

a woody rootstock; leaves alternate, fascicled, elliptic, margins entire, hairy and gland-dotted; inflorescence a small compact round-topped panicle; flowers lavender blue; probably among rock in montane grassland, but information lacking. A near-endemic, known only from Nyika, 'between Mpata and the commencement of the Tanganyika Plateau,' and possibly the Viphya.

Source. Hilliard (1999: 231).

Malawi. Summit of Nyika Plateau, 7,000', 1896, *Whyte* 145 (K, holo., E, SAM, iso.).

***Selago viscosa* Rolfe**

Selago maccloumiei Rolfe [Type: Nyika, Panda Peaks, *McCloumie* 139 (K, lecto.)]; *Selago laticorymbosa* Gilli; *Selago thomsonii* sensu *Flora zambesiaca* 8(2): 170 (1999).

Perennial shrublet with stout hairy stems 0.5–1 m tall; leaves fascicled, spreading, oblanceolate to elliptic, margins entire or with a few teeth; inflorescence a large loose round-topped panicle to 300 mm diameter, flowers in shades of lavender blue; montane grassland on forest margins, among rocks, marshy hollows, road verges, and firebreaks; 1,065–2,530 m. S.W. Tanzania, Nyika Plateau, and perhaps the Viphya. The commonest *Selago* on the Nyika. The name *S. thomsonii* var. *thomsonii*, which has been widely used on the Nyika, is a species confined to E. Africa.

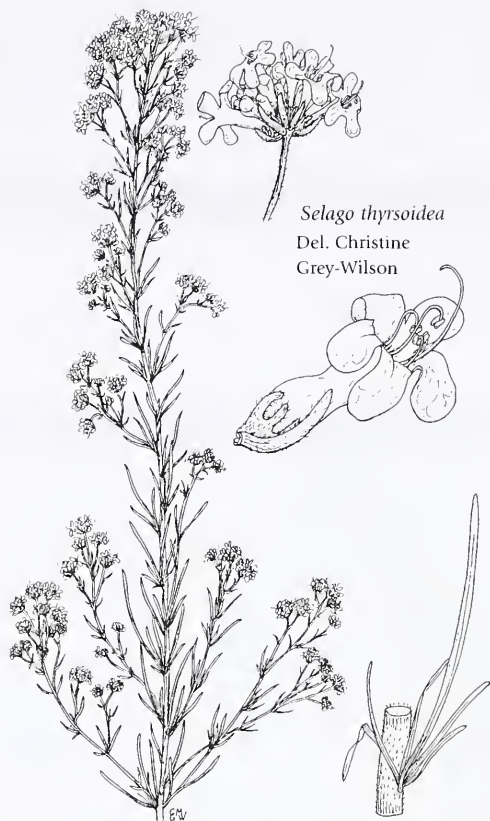
Source. Hilliard (1999: 232).

Malawi. Nyika Plateau, 2,400 m, 1946, *Brass* 17315 (BM, K, SRGH); western slopes of Nganda, 2,530 m, 1972, *Brummitt & Synge* WC60 (K, PRE, SRGH); Mpopoti Hill, 2000, *Salubeni & Mwanyambo* 6790 (MAL).

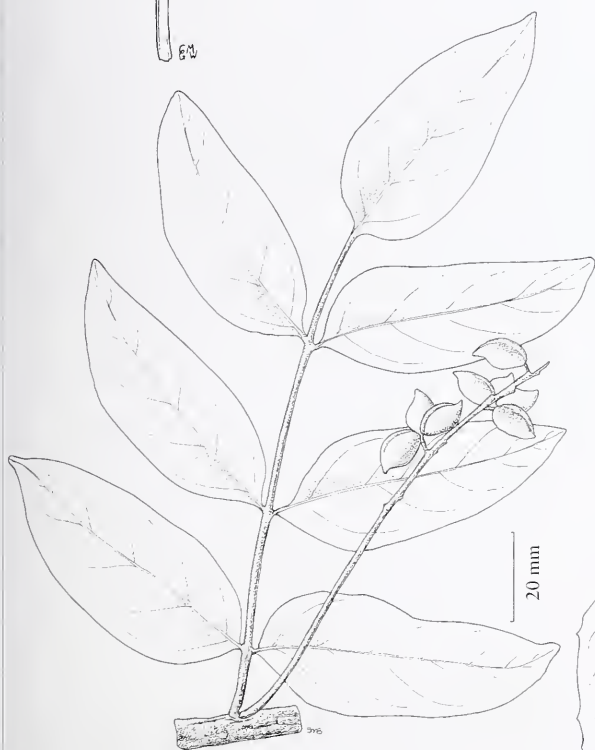
Zambia. Nyika, 1962, *Lawton* 918 (K, SRGH).



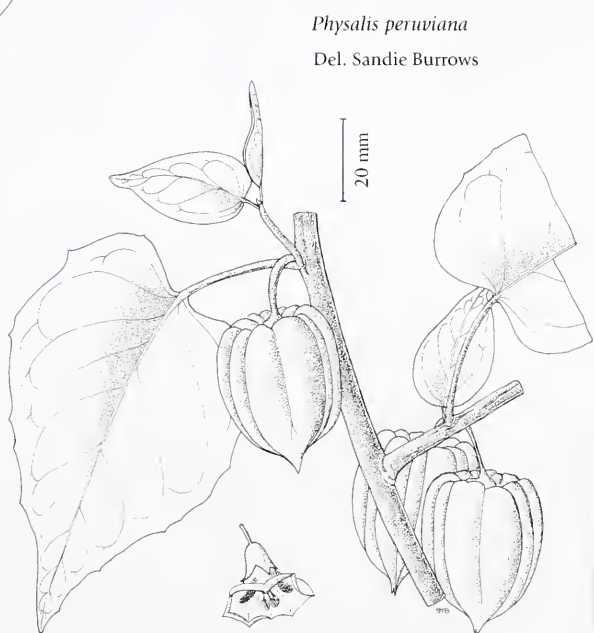
Hebenstretia angolensis
Del. Christine Grey-Wilson



Selago thyrsoides
Del. Christine
Grey-Wilson



Brucea antidysenterica
Del. Sandie Burrows



Physalis peruviana
Del. Sandie Burrows

Selago thyrsoidea Baker var. **thyrsoidea** ❖

Selago nyikensis Rolfe; *Selago thyrsoidea* Baker var. *nyikensis* (Rolfe) Brenan Suffrutex with several tufted stems 0.2–1 m tall, from a woody rootstock; leaves sharply ascending, more or less fascicled, linear to oblanceolate, apex acute, margin entire; flowers in few-flowered racemes, pale to deep violet-blue, bracts oblong-lanceolate, hairy; in montane grassland, often among rocks; 2,100–2,450 m. A near-endemic, known only from the Nyika Pla-

teau and the Mafinga Hills.

Source. *Flora zambesiaca* 8(2): 171 (1990); Hilliard (1999: 222).

Malawi. Nyika Plateau, 7,000', 1896, *Whyte 144* (K, holo.); road from Chelinda to Kasaramba, just past Chelinda Bridge turning, 2,410 m, 1970, *Brummitt 10721* (K); Chelinda Falls, 1981, *Salubeni 3061* (E, MO, SRGH); Chelinda Bridge, 2000, *Mwanyambo 538* (MAL).

Zambia. Nyika, without locality, 1966, *Fanshawe 9735* (K, SRGH).

SIMAROUBACEAE

Brucea antidysenterica J.F.Mill ❖

Trichilia siderotricha Chiov.

Small, sparsely-branched tree to 6 m tall, twigs with prominent leaf-scars and golden-brown hairs; leaves alternate, imparipinnate, with 3–5 pairs of leaflets, leaflets hairy above and below, margins wavy; flowers in small clusters widely spaced along an axillary spike; fruit in clusters, red; in

understorey of montane rainforest; 1,400–2,200 m. Malawi and Zambia northwards to W. Africa and Ethiopia. Rare on Nyika.

Source. *Flora zambesiaca* 2(1): 212 (1960); Dowsett-Lemaire (1985: 390).

Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985).

Zambia. Nyika Plateau, Kasoma Forest (Dowsett-Lemaire 1985).

SOLANACEAE

***Physalis peruviana** L. ❖

Cape gooseberry; *Chichewa*: ntongo, jamu

Perennial herb or shrublet to 0.9 m; leaves more or less opposite, ovate-triangular, ca 100 x 60 mm, softly hairy, very shallowly toothed or lobed, petiole to 25 mm; flowers solitary, axillary, conical, mustard yellow; fruit a greenish to yellow berry completely enclosed by a papery calyx to 30 mm long; a weed of disturbed areas, roadsides, and fallow land, sometimes cultivated. A native of S. America, now widespread in much of Africa. The ripe fruit is edible, tasty, and often used to make jam or a stewed dessert.

Source. Banda & Morris (1986: 57).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Solanum aculeatissimum Jacq.

Shrub to ca 1.5 m tall, stems densely hairy and bearing many straight spines to 12 mm long; leaves ca 180 x 160 mm, deeply lobed, hairy and bearing slender spines to 15 mm long; flowers white, ca 16 x 30 mm, peduncle 0.5 mm long, pedicels ca 11 mm long; fruit round, pale yellow or whitish, streaked green, ca 35 mm diameter; in forest clearings and disturbed areas, often associated with pine plantations. Widespread throughout Africa; also in Brazil. Thought possibly to have been introduced to Africa several hundred years ago.

Source. Bukenya & Carasco (1995: 51).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); road to Domwe Viewpoint, 2000, *Salubeni & Mwanyambo 6794* (MAL); road to Juniper Forest, 7,800', 1975, *Pawek 9949* (White *et al.* 2001: 553).

Zambia. Nyika National Park, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 323).

Solanum anguivi Lam.

Solanum indicum auctt., non L.

Perennial shrub 2–5 m tall, stems with stellate hairs and some almost conical prickles; leaves elliptic-ovate, 100–200 x 50–100 mm, hairy, with or without a few prickles, sinuate to shallowly lobed, base truncate to cordate; flowers white, ca 10 x 10 mm; fruit small, round, in clusters, shiny, orange or red when ripe; in montane forest, secondary montane scrub, disturbed areas in shade. Widespread in Africa; also in Madagascar and India. Grown in tropical Africa for its fruit. Some authors have recognized a number of subspecies.

Source. Brummitt (1973); Bukenya & Carasco (1995: 54).

Malawi. Nyika National Park, forest 4 km W. of Nganda, 1972, *Brummitt & Syngae 74* (K, MAL, SRGH, FHO, EA); road to Domwe, 2000, *Winter 4084* (MAL, PRE); Mpopot Hill, 2000, *Salubeni & Mwanyambo 6787* (MAL).

***Solanum mammosum** L.

Shrub to 1.5 m tall, stems densely hairy, with slightly recurved prickles 5 mm long; leaves ca 110 x 90 mm, lobed to about half the width of the

leaf, hairy on both sides, with prickles on midrib and veins; flowers ca 12 mm long, violet to blue; fruit to 50 mm wide, yellow, bearing a terminal 'nipple'; in disturbed habitats or cultivated. Native to the Caribbean region, cultivated as a medicine or as a cockroach poison. Poisonous if eaten.

Source. Bukenya & Carasco (1995: 51).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Solanum nigrum** L. ❖

Solanum guineense (L.) Lam.; *Solanum suffruticosum* Schousb. ex Willd. black nightshade; *Chichewa*: mnadzi; *Yao*: mnesi; *Tumbuka*: msaka, musaka

Erect branched annual herb 0.6–1 m tall, completely without prickles; leaves alternate, ovate-elliptic, margin entire or lobed, glabrous; flowers stellate, 8–18 mm diameter, white with yellow centre; fruit round, purplish to black when ripe, peduncles erect to spreading, pedicels much shorter than the peduncles, recurved; a weedy plant of disturbed areas. Regarded as indigenous to Eurasia, but possibly also natural in Africa. The leaves are cooked as *ndiwo* (a vegetable); the ripe berries are eaten, but the green berries are regarded as poisonous.

Source. Bukenya & Carasco (1995: 46).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Chelinda Bridge, 2000, *Salubeni & Mwanyambo 6773* (MAL).

Solanum panduriforme E.Mey.

apple of Sodom, bitter apple; *Chichewa*: nthula, mathika, nrunduwele;

Yao: ntungwisa

Spiny perennial shrubby herb to 1.2 m; leaves simple, alternate, to 125 x 60 mm, oblong-lanceolate, sinuate, undersurface densely hairy, few spines along midrib below; flowers cup-shaped, lilac to purple; fruit a yellow or orange berry to 70 mm diameter, poisonous; a weed, often an indicator of overgrazing, in disturbed areas, roadsides. Eastern and Central Africa; also in Arabia and India. Roots used to treat boils; the fruit is also used medicinally, used to cure mange on dogs.

Source. J. Williamson (1975: 216); Banda & Morris (1986: 142).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Solanum schumannianum Dammer

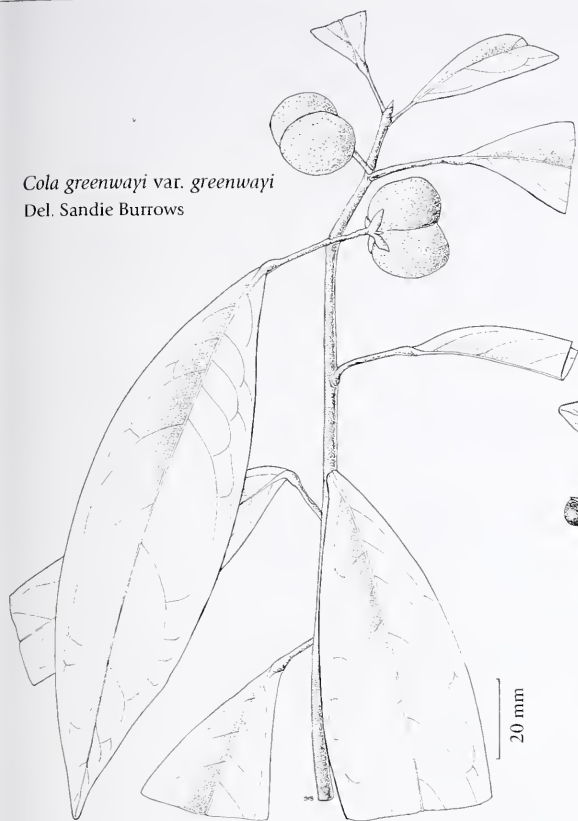
Solanum ulugurense Dammer; *Solanum subulatum* C.H. Wright

Shrub or small tree to 4 m tall, stems unarmed, but usually with bristly hairs; leaves to 140 x 50 mm, lanceolate-elliptic, acute to acuminate, entire, undersurface more or less hairless; flowers white, fruit ca 10 mm diameter; in light shade in forest or on forest margins. Malawi, Tanzania, and Kenya.

Source. White *et al.* (2001: 554).

Malawi. Nyika Plateau, Zovochipolo, without collecting details (Dowsett-Lemaire 1985: 335).

Cola greenwayi var. *greenwayi*
Del. Sandie Burrows



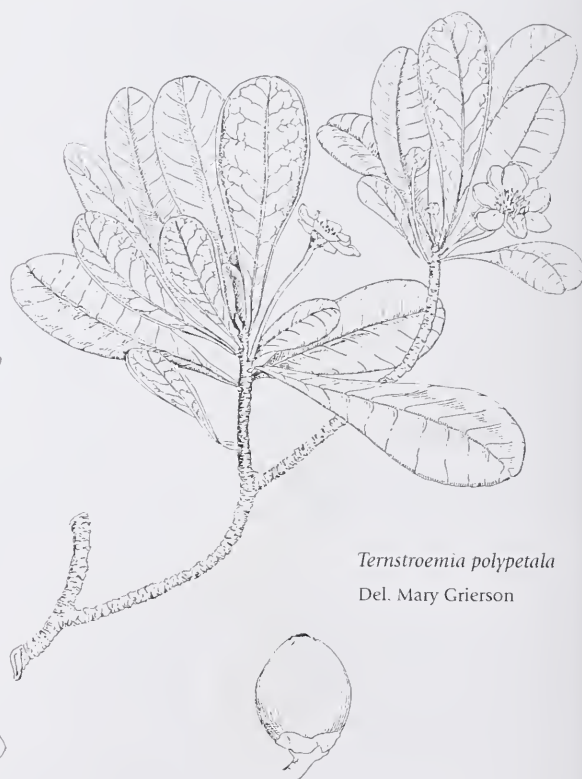
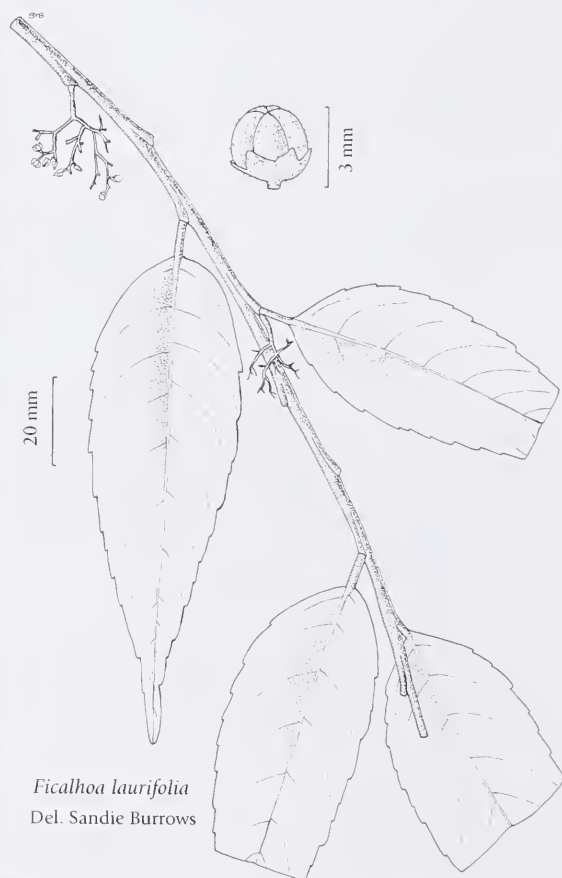
Solanum nigrum
Del. Sandie Burrows



Hermannia tigrensensis
Del. Sandie Burrows



Dombeya burgessiae
Del. Sandie Burrows



Cola greenwayi Brenan var. **greenwayi** ✧

Cola microcarpa Brenan

Small understory tree or canopy tree 25–30 m tall, bole shallowly fluted; young leaves red, petiole to 55 mm long with a swollen, bent pulvinus just below the lamina, set with brown hairs, leaves elliptic to oblanceolate, to 150 x 70 mm, hairless; in evergreen forest; 1,500–2,200 m. South Africa through Zambia and Malawi to Kenya.

Source. White *et al.* (2001).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Zambia. Nyika Plateau, Chowo Forest, 1956, *Chapman* 294 (White *et al.* 2001).

Dombeya burgessiae Gerrard ex Harv. ✧●

Dombeya nyasica Exell; *Dombeya johnstonii* Baker; *Dombeya lasiostylis* K.Schum.

Tumbuka: mnangali

Sparsely branched shrub 2–4 m tall, branchlets densely hairy; leaves 3-lobed (rarely 5-lobed), margin coarsely serrate, hairy on both sides; flowers in several-flowered umbels, pink (sometimes white); on margins of montane forest, in forest regrowth, and in riverine vegetation; 800–2,200 m. South Africa to Angola, D.R.C., and Kenya. The bark of young shoots is used to make string.

Source. Brummitt (1973); Seyani (1991).

Malawi. Nyika National Park, E. foot of Nganda, 1972, *Brummitt & Syngae* 102 (K, MAL, SRGH, FHO).

Zambia. Nyika Plateau, without precise locality, 1952, *White* 2568 (FHO).

Dombeya kirkii Mast.

Shrub to 2 m or a tree to 15 m tall; leaves unlobed to very shallowly 3-lobed, 35–180 x 20–130 mm, apex acuminate, margin variously toothed, sparsely hairy above, more densely below; flowers white, spreading widely at maturity; in low-altitude woodland, often along rivers. South Africa (Limpopo Province) to Ethiopia. In the *Flora zambesiaca* region this species is confined to hot, low-altitude bush, a vegetation type not associated with the Plateau. Seyani (1991) does not record *D. kirkii* from central or northern Malawi and this record should be regarded with some caution.

Malawi. Nyika National Park, Chisimuka, 2001, without collecting details (Patel & Overton 2002: 33).

Dombeya rotundifolia (Hochst.) Planch.

Chichewa: naduwa, nchiu, mchiu; *Yao:* chiwalika

Tree to 9 m tall, usually deciduous, branches hairless; leaves roundish to ovate, more or less unlobed, base cordate, apex round, margin irregularly toothed, upper surface scabrid (sandpapery), lower surface finely hairy; flowers white, aging to brown; in various types of woodland. Widespread in southern and eastern Africa, from South Africa to Ethiopia. Seyani (1991) does not record this species from northern Malawi and this record should perhaps be regarded with some suspicion.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Dombeya torrida (J.F.Gmel.) Bamps subsp. **erythroleuca** (K.Schum.) Seyani

Tree 7–20 m; leaves ovate, not lobed, narrowing gradually to a short point, margin finely serrate, upper surface somewhat scabrid, lower surface sparsely hairy; flowers white or pink, red-veined; in gaps or on margins of evergreen forests; 1,850–2,450 m. Zambia (Nyika Plateau), Malawi, and Tanzania.

Source. *Flora zambesiaca* 1(2): 525 (1961); Brummitt (1972); Seyani (1991).

Malawi. Nyika Plateau, without precise locality, 1953, *Chapman* 116 (BR, FHO, K); 3 km E. of Nganda, 1972, *Brummitt & Syngae* 88 (K, MAL, SRGH).

Zambia. Nyika Plateau, 3 km N. of Rest House, 1955, *Lees* 97 (K).

Hermannia tigrensensis Hochst. ex A.Rich. ✧

Branching annual herb to 300 mm tall, hairy throughout; leaves to 40 x 15 mm, lanceolate to ovate-lanceolate, thinly hairy on both sides; flowers single in leaf axils, petals yellow, 3–5 mm long; capsule 3–4 mm long, ovoid-truncate; in soil pockets in rocky outcrops and in riverine fringes. Zimbabwe to W. Africa and Ethiopia.

Source. *Flora zambesiaca* 1(2): 546 (1961).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Melochia corchorifolia L. ✧

Tonga: chibwathiko, chikondavu

Erect annual herb to ca 2 m tall; leaves up to 70 x 45 mm, thinly hairy, at least on the veins below; flowers numerous, in dense terminal clusters, petals ca 8 mm long, white with yellow at the inner base; fruit a 5-valved capsule ca 5 mm diameter; usually a weed of cultivation. Circumtropical. Leaves eaten as a spinach and also used for smoking.

Source. *Flora zambesiaca* 1(2): 535 (1961).

Malawi. Nyika Plateau, Mwenembwe, 1903, *McClounie* 135 (K).

Excluded species

Hermannia glanduligera K.Schum.

Perennial herb or shrublet to 1 m tall; flowers pink to red; river-banks and open woodland, in hot, drier parts of the region. Like many of McClounie's collections, this would appear to be mislocated and was probably collected

near Lake Malawi.

Source. *Flora zambesiaca* 1(2): 545 (1961).

Malawi. Nyika Plateau, Mwenembwe, 1903, *McClounie* 73 (K).

STRYCHNACEAE

Strychnos lucens Baker ✧

Climbing shrub or liane 3–20 m high, branches with paired tendrils; leaves paired, narrowly ovate to elliptic, leathery, shining dark green, 3-veined from the base; flowers in axillary clusters; fruit hard, round, 15–70 mm diameter, yellow/orange when ripe; in riverine forest or on rocky hills in

moist woodlands; 0–1,700 m. Zimbabwe to Angola, D.R.C., and E. Africa.

Source. *Flora zambesiaca* 7(1): 363 (1983); White *et al.* (2001: 343).

Malawi. Nyika Plateau, Chisanga Falls, 1959, *Robinson* 3094 (BR, K, M, PRE, SRGH).

THEACEAE

Ficalhoa laurifolia Hiern ✧

Chichewa: m'ndopi, ndopa; *Tumbuka:* mlunganya

Large tree 6–45 m tall, bark reddish brown with deep longitudinal fissures; leaves alternate, lanceolate to ovate, margins finely serrated; flowers in loose clusters on twigs below the leaves; in evergreen rainforest, riverine forest, and streamsides; a dominant emergent in the eastern escarpment forests of Nyika; 1,350–1,800 m. Malawi, Zambia, and Angola to Uganda.

Source. White *et al.* (2001).

Malawi. Nyika Plateau, Chisanga Falls (White *et al.* 2001); eastern escarpment forests (Dowsett-Lemaire 1985).

Turnstroemia polypetala Melchior ✧

Tree 8–12 m tall (in E. Africa) with a flattish crown; leaves borne in upright clusters; a canopy tree in mist forest and upland rainforest; in

Nyamkhowa Forest of Nyika it is a 30 m tall emergent; 1,800–2,300 m. Northern Malawi (Nyika and Vipha), southern Tanzania (Ulugurus), and Cameroon.

Source. Dowsett-Lemaire & White (1990); White *et al.* (2001).

Malawi. Nyika Plateau, Nyamkhowa Forest, Dowsett-Lemaire 526 (FHO); Kasaramba, 1953, Chapman 125 (FHO).

THYMELAEACEAE

Dais cotinifolia L. ❖

pompon tree

Small to medium deciduous tree 3–10 m tall, bark grey, smoothish; leaves opposite, simple, elliptic, glabrous; flowers in terminal compact clusters, pink, showy; seeds developing in the bases of the old flowers; in or on margins of montane forest; 1,200–2,400 m. South Africa to Tanzania. A fine ornamental tree.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); near Nganda, 2,400 m, Dowsett-Lemaire 308 (White *et al.* 2001: 566).

Gnidia chrysanth (Solms-Laub.) Gilg

Gnidia flavus Rendle

Shrubby suffrutex 200–750 mm tall, with numerous sparsely-branched stems, petiole 0.5–1 mm long; leaves alternate, linear to oblanceolate, midrib prominent below, hairless; flowers in a terminal head of 30–50 flowers, flowering parts in 4s, calyx lobes brilliant yellow to red, petals absent; in seasonally wet grassland, montane grassland or wooded grassland; 400–2,100 m. Zimbabwe and Mozambique to Guinea, Sudan, and Ethiopia.

Source. Brummitt (1973); *F.T.E.A.* Thymelaeaceae: 26 (1978).

Malawi. Nyika National Park, half way from Nganda to Kawozya, 1972, Brummitt & Syngé 167 (K).

Gnidia fastigiata Rendle

Shrublet to 400 mm tall; leaves alternate, sessile, linear-lanceolate, hairy; flowers 1–4 in leaf axils, pale blue, whitish or yellow, flowering parts in 4s, petals (6–)8, linear; in montane grassland on rocky hillsides, 1,000–3,000 m. Zimbabwe, Malawi, Tanzania, Kenya, and Uganda.

Source. Brummitt (1973); *F.T.E.A.* Thymelaeaceae: 21 (1978).

Malawi. Nyika National Park, head of Mondwe Valley, 1972, Brummitt & Syngé 247 (K).

Gnidia glauca (Fresen.) Gilg

Lasiosiphon glaucus Fresen.

Large shrub or small tree to 15 m, with a spreading crown; leaves alternate or subopposite, lanceolate to oblanceolate, 30–60 × 6–20 mm, glaucous-green, finely hairy near base, otherwise hairless; flowers in dense terminal heads, orange to golden yellow; frequent on margins of montane forest and in wooded montane grassland; 1,500–3,300 m. Malawi and Zambia northwards to Nigeria and Ethiopia. The largest member of the genus.

Source. Brummitt (1973); *F.T.E.A.* Thymelaeaceae: 32 (1978).

Malawi. Nyika National Park, N.W. foot of Nganda, 2,350 m, 1972, Brummitt & Syngé 6 (K, MAL, FHO, BR, UPS, P); Juniper Forest, 1946, Brass 17181 (FHO); 1982, Chapman 6314 (FHO); without locality, 7,000', 1953, Chapman 118 (FHO).

Gnidia goetzeana Gilg

Erect shrublet to 1.5 m tall, normally single-stemmed from a taproot, branches with hairless red or brown bark; leaves subsessile, narrowly elliptic to oblanceolate-linear, glaucous-green, hairless; flowers in terminal or axillary heads of 30–80 flowers, whitish or yellow, flowering parts in 4s, petals filiform; in miombo woodland or wooded grassland; 800–1,800 m. Malawi, Zambia, D.R.C., Burundi, and Tanzania.

Source. *F.T.E.A.* Thymelaeaceae: 23 (1978).

Malawi. Nyika National Park, without locality or collecting details (Patel

1999).

Gnidia involucrata Steud. ex A.Rich.

Gnidia buchananii Gilg

Shrublet to 1 m tall with numerous stems from a woody rootstock, stems glabrous, green to reddish, leaves subsessile, linear to elliptic, glaucous, sometimes reddish, hairless; flowers terminal or axillary, in heads of 15–25 flowers, flowering parts in 4s, petals obovate or spatulate; pyrophyte in open or wooded grassland or woodland; 1,000–2,700 m. Zimbabwe to Angola, Nigeria, Sudan, and Ethiopia.

Source. Brummitt (1973).

Malawi. Nyika National Park, plateau above upper Mondwe Valley, 1972, Syngé 395 (K, MAL, SRGH, PRE).

Gnidia kraussiana Meisn. ❖

Lasiosiphon kraussianus (Meisn.) Burtt Davy; *Lasiosiphon kraussianus* (Meisn.) Burtt Davy var. *villosus* Burtt Davy

Perennial herbaceous suffrutex to 0.6 m tall, usually less, branches hairless or densely hairy; leaves petiolate (1–2 mm), narrowly lanceolate to lanceolate, glaucous-green, hairy or silky, more or less mucronate; flowers in dense capitate terminal heads of 18–50 flowers, orange to yellow, flowering parts mostly in 5s, petals oblong to ovate; a pyrophyte in montane grassland, or in *Brachystegia* or *Uapaca* woodland; 1,300–2,700 m. South Africa to Kenya, Sudan, Nigeria, and Guinea.

Source. *F.T.E.A.* Thymelaeaceae: 29 (1978).

Malawi. Nyika National Park, plateau above upper Mondwe Valley, 1972, Syngé 393 (K, MAL, SRGH, UPS, BR).

No country given. 1955, Lees 46 (UZL).

Peddiea africana Harvey ❖

Peddiea fischeri Engl.

Chichewa: mkakauku; *Yao:* nakasabola

Small tree to 5 m tall; bark, when stripped, producing a strong 'string'; leaves alternate, lanceolate to narrowly elliptic, hairless, upper surface glossy, margins entire, rather wavy, apex pointed; flowers in loose clusters *ca* 10 flowers, on stalks 5–20 mm long, yellowish green, green or reddish, tubular; fruit a shiny blackish fleshy berry 6–10 mm long; in understorey of evergreen forest and riverine forest; 1,000–2,200 m. South Africa northwards to Ethiopia; also in the W. African highlands from Guinea to Cameroon.

Source. *F.T.E.A.* Thymelaeaceae: 12 (1978).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Synaptolepis alternifolia Oliv. ❖

Chichewa: chiwombwi; *Yao:* luchimbili

Shrub or woody climber to 10 m high, bark reddish brown, lenticellate; leaves opposite (sometimes alternate), simple, ovate to elliptic, 15–45 × 10–25 mm, glabrous; flowers in few-flowered terminal groups, white, pale yellow or cream, tube 12–18 mm long; in riverine vegetation, miombo woodland, and wooded grassland; 50–1,100 m. Zimbabwe, Mozambique, Malawi, and Tanzania.

Source. *F.T.E.A.* Thymelaeaceae: 6 (1978).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

TILIACEAE

Grewia mildbraedii Burret

Grewia sp. of Chapman & White (1970)

Tree to 20 m tall, buttressed low-down, bark reddish, vertically-fissured; leaves alternate, oblong-elliptic, weakly 3-veined from the base; inflorescence axillary, much-branched, flowers small, greenish; fruit simple, unlobed,

pear-shaped; in mid-altitude rainforest; 1,650–2,000 m. Malawi, Tanzania, Uganda, Rwanda, D.R.C. Known only from Nyika and Vipha in Malawi.

Source. Dowsett-Lemaire (1985: 359); White *et al.* (2001: 570)

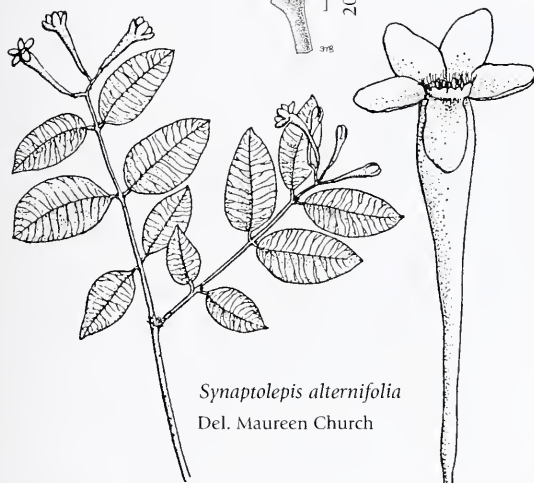
Malawi. Nyika Plateau, foot of Mwenembwe (Chapman & White 1970, Dowsett-Lemaire 1985).



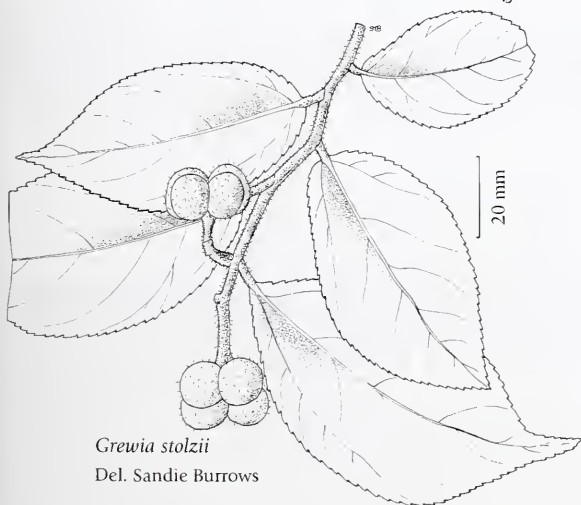
Peddiea africana
Del. Sandie Burrows



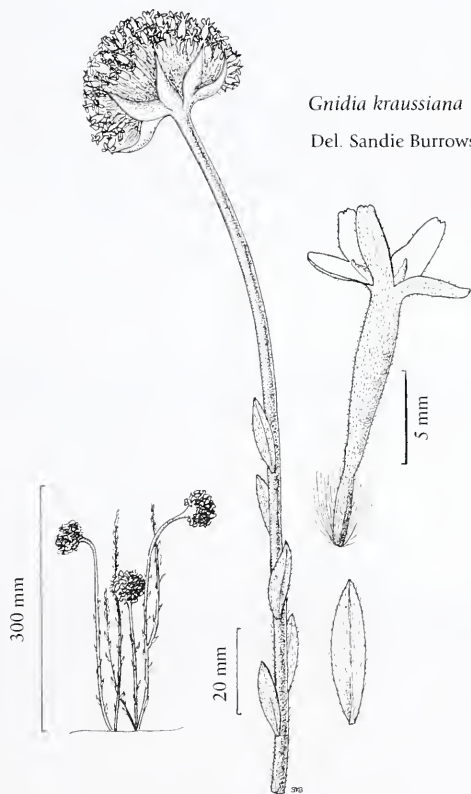
Dais cotinifolia
Del. Sandie Burrows



Synaptolepis alternifolia
Del. Maureen Church



Grewia stolzii
Del. Sandie Burrows



Gnidia kraussiana
Del. Sandie Burrows

Sparrmannia ricinocarpa
Del. Sandie Burrows



Triumfetta rhomboidea
Del. Eleanor Catherine



Celtis africana
Del. Sandie Burrows

Boehmeria macrophylla
Del. Victoria Friis



Grewia stolzii Ulbrich ✧

Liane or scrambling shrub with purplish arching branches; leaves elliptic to ovate-elliptic, markedly 3-veined from the base, hairless above, thinly hairy below; inflorescence leaf-opposed, sparsely branched or unbranched; flowers white; fruit round, 2- to 4-lobed; in montane forest or on rocky ground in miombo woodland; 800–1,600 m. Zimbabwe and Mozambique to E. D.R.C. and Kenya.

Source. Dowsett-Lemaire (1985: 359); White *et al.* (2001: 570)

Malawi. Nyika Plateau, Kasyaula forest, without collecting details (Dowsett-Lemaire 1985); 20 km from Thazima Gate, 2000, *Burrows & Maroyi* 6798 (PRE).
Zambia. Nyika Plateau, near Chowo, *Dowsett-Lemaire* 248 (White *et al.* 2001).

Sparrmannia ricinocarpa (Eckl. & Zeyh.) Kuntze ✧

Slender shrub to 3 m tall; leaves 3- to 7-lobed, sparsely hairy; flowers in leaf-opposed umbels, white with clusters of yellow anthers; fruit a round capsule set with numerous stiff bristles; at high altitudes on forest margins, in montane scrub or along streams. South Africa northwards to Cameroon and Ethiopia. The stems yield a good fibre.

Source. *Flora zambesiaca* 2(1): 77 (1963); Brummitt (1973).

Malawi. Nyika National Park, 4 km W.N.W. of Muzengapakweru, 1972, *Synge* 304 (K, MAL); Domwe Peak, 2000, *Kasakula* 255 (LMA, MAL, SRGH); Mpopoti Hill, 2000, *Salubeni & Mwanyambo* 6785 (MAL).

Zambia. Nyika Plateau, near source of Chire River, 1952, *White* 2562 (FHO).

Triumfetta amuletum Sprague

Chicheva: matitidza

Prostrate perennial with hairy trailing stems to 1 m long, or ascending to 1.2 m; leaves broadly ovate to circular, 70–100 mm long, base rounded or broadly tapering, 5-nerved from the base, hairy on both sides; flowers in axillary clusters, yellow; fruit ca 20 mm diameter, black, round, covered sharp bosses; in open grassland at margins of wetlands, or in open woodland on heavy soils, sometimes a weed. Apparently endemic to the *Flora zambesiaca* area.

Source. *Flora zambesiaca* 2(1): 65 (1963).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Triumfetta annua L.

Chicheva: khatambuzi; *Tumbuka:* sungini

Annual 100–600 mm tall; leaves 30–120 x 20–70 mm, ovate, narrower up the stem, base rounded, apex acute-acuminate, serrate, sparsely hairy on both sides; flowers in axillary clusters, petals yellow; fruit depressed-globose, hairy, hairs hooked; on forest margins, in shaded areas in bush, or a weed of cultivation. Widespread in tropical Africa, Madagascar, and Asia.

Source. *Flora zambesiaca* 2(1): 75 (1963).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Triumfetta pentandra A.Rich.

Very similar to *Triumfetta rhomboidea*, but much less hairy, and the fruit is

ovoid; a weed or pioneer species in disturbed areas. Widespread in tropical Africa; also in India and Taiwan.

Source. *Flora zambesiaca* 2(1): 74 (1963).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999); without locality, 1903, *McClounie* 161 (K).

Triumfetta pilosa Roth var. **glabrescens** Sprague & Hutch.

Small shrub to 1.3 m tall, stems square; leaves 80–140 x 15–35 mm, very sparsely hairy; flowers yellow; fruit hairy, but with hooks near the apex; probably on forest margins or in scrub. Zimbabwe, Zambia, Malawi, Mozambique, and Tanzania.

Source. *Flora zambesiaca* 2(1): 77 (1963).

Malawi. Nyika Plateau, 1896, *Whyte* s.n. (K, syn.); Mbuzinandi, 2000, *Salubeni & Mwanyambo* 6824 (MAL).

Triumfetta rhomboidea Jacq. ✧

Chicheva: mpala; *Tumbuka:* msonongwe

Annual or perennial to 2 m tall; leaves 25–150 x 20–100 mm, ovate to ovate-lanceolate, sometimes 3-lobed, base truncate to cordate, 3- to 7-lobed from the base, hairy; flowers in leafy axillary clusters, petals yellow, ca 4 mm long; fruit round, hairy, some hairs hooked; a weed of cultivation, found throughout the tropics. Possibly introduced to Africa, described from the West Indies. A very variable species.

Source. *Flora zambesiaca* 2(1): 73 (1963).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999); without locality, 1903, *McClounie* 126 (K).

Triumfetta tomentosa Bojer

Chicheva: chikande

Small shrub to 3 m, branches with brown woolly hairs; leaves 50–120 x 25–70 mm, ovate to lanceolate, sometimes slightly 3-lobed, base cordate, brown-grey woolly on both surfaces; flowers in leafy axillary clusters, petals yellow, 4–7 mm long; fruit fluffy; often as a pioneer in cultivated or disturbed areas. Throughout tropical Africa; also in S. America. Very similar to *T. pilosa*.

Source. *Flora zambesiaca* 2(1): 72 (1963).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Triumfetta welwitschii Mast. ?var. **welwitschii**

Chicheva: nyame

Perennial herb with annual shoots from a woody rootstock, flowers developing before the leaves; leaves linear-lanceolate to obovate-oblong, 30–110 x 4–20 mm, hairy or not; flowers in terminal clusters, petals yellow, 5–9.5 mm long; fruit round, densely hairy; common in miombo woodland and frequently-burnt grassland, flowering soon after fire. South Africa to Angola and Tanzania.

Source. *Flora zambesiaca* 2(1): 77 (1963); UZL.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); road to Chelinda, 7,500', 1967, *Richards* 22513 (UZL).

ULMACEAE

Celtis africana Burm.f. ✧

white stinkwood; *Sukwa:* chingono

Deciduous tree to 25 m tall, bark smoothish, mottled grey; leaves alternate, ovate, coarsely serrate in the upper two-thirds, sometimes slightly scabrid, but always with varying degrees of hairiness; fruit a small yellowish berry; in moist woodlands, termite mounds, riverine forest, rocky hills,

and in drier types of montane forest; up to 2,000 m. Widespread in Africa from South Africa to Nigeria, Sudan, and the Arabian Peninsula.

Malawi. Nyika Plateau, Kasyaula Forest, without collecting details (Dowsett-Lemaire 1985).

Zambia. Nyika Plateau, Manyenjere, Kasoma, and Chowo Forests, without collecting details (Dowsett-Lemaire 1985).

Excluded species

Celtis gomphophylla Baker

Celtis durandii Engl.

This species record, which first appeared in Chapman & White (1970), is

an error (Dowsett-Lemaire (1985: 327)).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Boehmeria macrophylla Hornem. ✧*Boehmeria platyphylla* Hamilt. ex D. Don

Soft perennial shrub to 3 m tall, without stinging hairs, stems and leaves more or less hairy; leaves opposite, 150–300 x 70–150 mm, base cordate to tapering, petiole 25–150 mm long; flowers in axillary clusters; in deep shade of montane forest, usually along streams; 300–2,000 m. Widespread in tropical Africa and throughout the Old World tropics.

Source. Dowsett-Lemaire (1985: 316); White *et al.* (2001).

Malawi. Nyika Plateau, Chisanga Falls, 2000, *Burrows & Burrows* 6767 (MAL, PRE, UZL).

Elatostema monticola Hook.f. ✧*Elatostema orientale* Engl.

Annual or perennial herb with erect stems to 300 mm high, arising from creeping rhizomes, without stinging hairs, stems somewhat zigzagging; leaves alternate, confined to the upper part of the stem, asymmetric and slightly curving towards the tip of the stem, more or less hairless; flowers stalkless, axillary; in evergreen montane forest in moist shade of forest floor, sometimes in shade in moist rocky places; 1,200–2,200 m. Zimbabwe northwards through tropical Africa to Nigeria, Sudan, and Ethiopia.

Source. *Flora zambesiaca* 9(6): 104 (1991).

Malawi. Nyika Plateau, Kasyaula and Zovochipolo Forests, without collecting details (Dowsett-Lemaire 1985).

Zambia. Nyika Plateau, Chowo Forest, 2,000 m, 1991, *Friis* 6324 (C, K, MAL).

Girardinia diversifolia (Link.) Friis ✧*Girardinia heterophylla* Decne.; *Girardinia condensata* (Hochst. ex Steud.) Wedd.

Large erect herb 1–3 m tall, completely covered in long stinging spines and hairs; leaves lobed, margins toothed, upper surface glabrous, with some stinging hairs, lower surface thinly hairy with stinging spines on the nerves; male flowers in a slender axillary spike, female flowers in a dense elongate cluster 100–150 mm long; in woodland or dry forest in rocky areas, or in riverine forest; 850–2,050 m. Sporadic, but widespread in Africa, also in Asia as far as China.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Nkhonjera Hill (White *et al.* 2001: 581).

Laportea alatipes Hook.f. ✧*Fleurya alatipes* (Hook.f.) N.E.Br.

Annual or short-lived perennial herb or straggly shrub to 1.5 m high, set with stinging hairs; leaves alternate, triangular to rhomboid or ovate, leaves hairy or not; in understory of montane forests and forests in ravines; 1,400–2,200 m. Widespread, in the mountains of Cameroon, E. D.R.C., Ethio-

pia, Uganda, Kenya, Tanzania, and S. to South Africa. A fiercely stinging plant.

Source. *Flora zambesiaca* 9(6): 93 (1991).

Malawi. Nyika National Park, Kasyaula Forest, 1981, *Salubeni & Tawakali* 3001 (SRGH).

Zambia. Nyika Plateau, Chowo Forest, 2,000 m, 1991, *Friis* 6322 (C, K, MAL); *ibid.* Pawek 11249 (White *et al.* 2001).

Pilea rivularis Wedd.*Pilea ceratomeria* Wedd.

Perennial herb with creeping rhizome and erect, mostly unbranched stems to 1 m tall, without stinging hairs; leaves opposite, but leaf pairs often unequal in size; leaves glabrous; female flowers in tight clusters in leaf axils; in high-rainfall evergreen montane forests, often in moist rocky places, ravines, and along small streams; 1,800–2,100 m. Widely distributed in the moist uplands and mountains of tropical Africa. This is a very variable species, which has been subdivided by several authors.

Source. *Flora zambesiaca* 9(6): 98 (1991).

Malawi. Nyika National Park, Zovochipolo Forest, 2000, *Burrows & Burrows* 6898 (MAL, PRE, UZL).

Zambia. Nyika Plateau, Chowo Forest, 2,000 m, 1991, *Friis* 6323 (C, K, MAL).

Pilea tetraphylla (Steud.) Blume ✧

Erect annual herb to 200 mm tall, without stinging hairs; leaves opposite, but apparently whorled at the stem apex, ovate, glabrous; female flowers restricted to the top of the plant; in humid places in montane forest or in moist sites among rocks; 1,650–2,800 m. Widespread in the mountain areas of tropical Africa.

Source. *Flora zambesiaca* 9(6): 96 (1991).

Malawi. Nyika National Park, 2,300 m, 1973, *Pawek* 6640 (K, MO, SRGH).

Urera hypselodendron (Hochst. ex A. Rich.) Wedd. ✧

Robust climber to 30 m high, stems with copious adventitious roots, stinging hairs absent; leaves ovate, upper surface dark green, more or less hairless, lower surface paler, hairy or at least along the nerves; a common climber in upland and montane forest clearings, along forest edges, in riverine or moist ravine forest; 1,450–2,150 m. From Zimbabwe northwards through eastern Africa to Sudan and Ethiopia.

Source. Dowsett-Lemaire (1985: 320); *Flora zambesiaca* 9(6): 82 (1991).

Malawi. Nyika Plateau, Kafwimba Forest, 1,800 m, 1975, *Pawek* 10263 (K, MO, PRE, SRGH).

Zambia. Nyika Plateau, without locality, 2,150 m, 1958, *Robson* 351 (K, SRGH); Chowo Forest, 6,100', 1967, *Richards* 22697 (UZL).

VALERIANACEAE

Valeriana capensis Thunb. ✧

Erect perennial unbranched herb to ca 1 m tall, with fleshy rhizome and fibrous roots; leaves mainly basal, but 3–5 reducing upwards, pinnate to pinnatifid, terminal leaflets to 130 mm long, larger than the lateral ones, shallowly dentate; flowers in terminal or axillary long-stalked clusters, white; in marshy areas and streamsides in montane grassland; 1,800–2,700 m.

Along the eastern mountain chain from South Africa to Kenya.

Source. *Flora zambesiaca* 7(1): 75 (1983).

Malawi. Nyika National Park, valley 2.5 miles S.W. of (Zambian) Rest House, 1958, *Robson* 250 (BM, K, LISC, PRE, SRGH); without locality or collecting details (Mill 1979).

Zambia. Nyika Plateau, without locality, 1962, *Fanshawe* 7291 (K).

VERBENACEAE

***Lantana trifolia** L. ✧

Herbaceous shrub 0.9–3 m tall, often with purplish hairy stems; leaves aromatic, opposite or mostly in whorls of 3, ovate-lanceolate to oblong-elliptic, 50–140 x 20–60 mm, apex acute, crenate-serrate, scabrid-hairy above, hairy below; flowers in hemispherical heads, pink or purple, sometimes white to pink; fruit a small, roundish drupe, 2.5–3.5 mm diameter, mauve to purple; in grassland, miombo woodland, bracken scrub, and on forest margins; 0–2,400 m. Widespread in Africa, but probably introduced from the Americas.

Source. *F.T.E.A.* Verbenaceae: 46 (1992).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

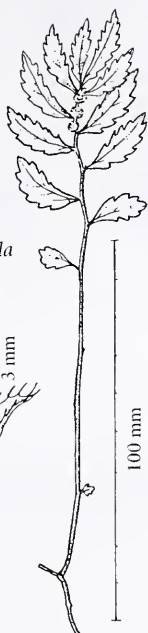
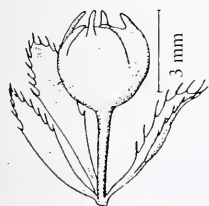
Lippia baumii Gürke var. **nyassensis** R.Fern.

Perennial many-stemmed herb to 650 mm or more, all parts with dense silvery white hairs; leaves opposite, broadly ovate to rounded, usually longer than the internodes; flowers in spike-like heads in upper axils, yellow, rarely white, 3.5–4.5 mm long; in montane grassland and miombo woodland on rocky hillsides; 1,800–2,100 m. Malawi and Tanzania.

Source. *F.T.E.A.* Verbenaceae: 32 (1992).



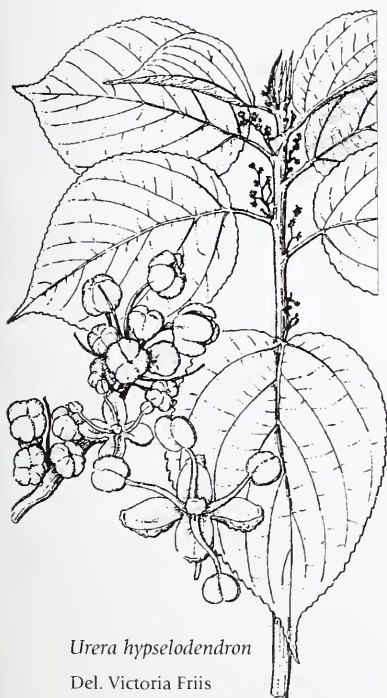
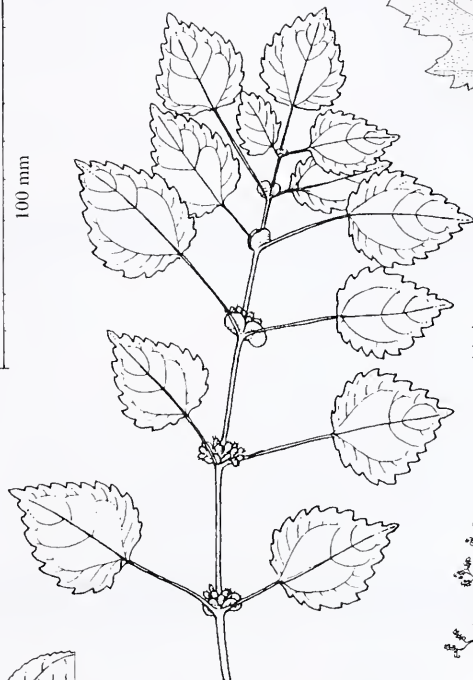
Elatostema monticola
Del. Victoria Friis



Girardinia diversifolia
Del. Victoria Friis



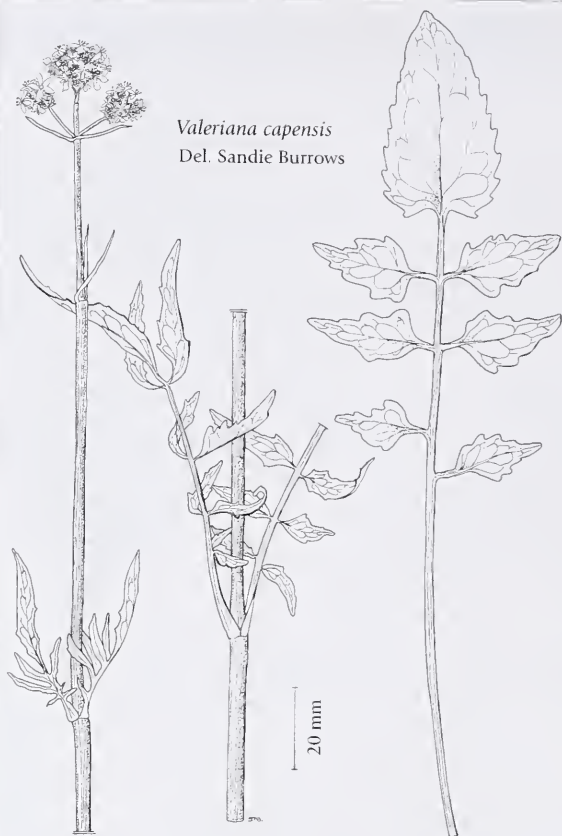
Pilea tetraphylla
Del. Victoria Friis



Urera hypselodendron
Del. Victoria Friis

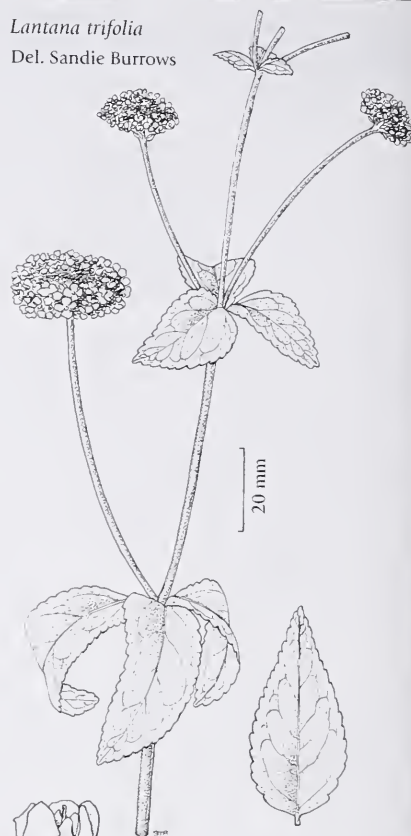
Laportea alatipes
Del. Sandie Burrows





Valeriana capensis
Del. Sandie Burrows

Lantana trifolia
Del. Sandie Burrows

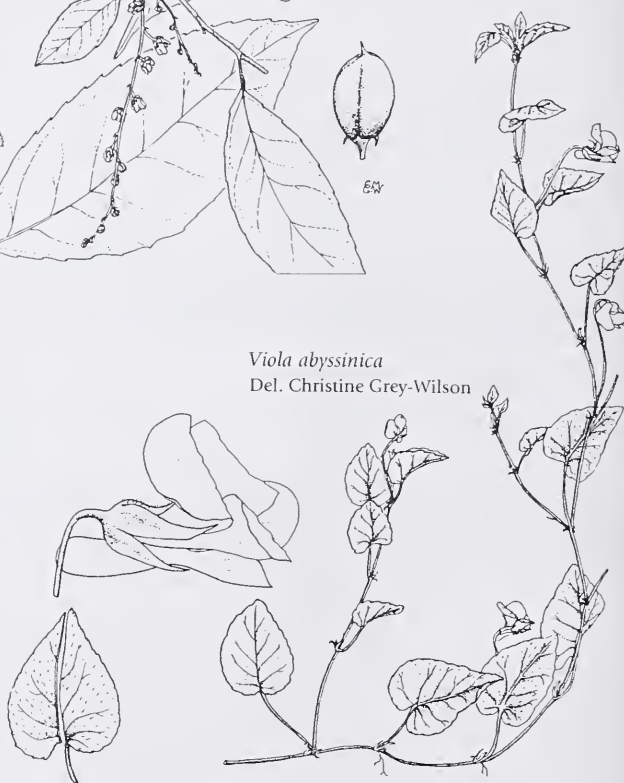


Rinorea convallarioides
Del. Christine Grey-Wilson



Lippia plicata
Del. Maureen Church

Viola abyssinica
Del. Christine Grey-Wilson



Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Mwanda Mt., 2000, *Winter 4159* (MAL).

***Lippia javanica* (Burm.f.) Spreng.**

Lippia whytei Mold.

Chichewa: chanzi, yumba; Yao: chisunganjeu, mchenjema

Shrub to 4 m tall, softly woody; leaves strongly aromatic and slightly unpleasant, opposite or in whorls of 3, 10–100 × 3–45 mm, scabrid and rugulose (rough) above, serrulate; flowers in a small compact spike, white to yellowish green; in woodland, scrubby grassland, rocky hillsides; 450–2,350 m. Widespread in Africa, from South Africa to Angola and Ethiopia. Not in Asia, despite the species name, which was applied erroneously.

Source. F.T.E.A. Verbenaceae: 30 (1992).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Lippia plicata* Baker ✧**

Lippia strobiliformis Mold.

Woody herb or shrub 0.6–3 m, stems square, brown to reddish purple; leaves aromatic (minty), opposite, rarely in threes, ovate to lanceolate, 15–100 × 7–55 mm, harshly scabrid above, margins crenate-serrate; flowers in

roundish terminal clusters, white/yellow to pink or lilac, scented; in grassland and various types of woodland, often in disturbed areas; 450–1,950 m. Mozambique, Malawi, Zambia, Angola, D.R.C., and Tanzania.

Source. Brummitt (1973); F.T.E.A. Verbenaceae: 34 (1992).

Malawi. Nyika National Park, N.W. foot of Nganda, 1972, Brummitt & Syngé 47 (K, MAL, SRGH, FHO, LIS); W. of Vintintha Hill, 2000, Salubeni & Mwanyambo 6763 & 6806 (MAL).

***Lippia woodii* Mold.**

Lippia africana Mold. var. *villosa* Mold.; *Lippia wilmsii* Pearson var. *villosa* (Mold.) Mold.

Herb or shrublet 150–600 mm tall, with several unbranched stems; leaves strongly aromatic, opposite, obovate-elliptic to rhomboid, 10–80 × 10–30 mm, shallowly crenulate, rugose/bullate, silvery hairy below, sparsely hairy above; flowers in axillary clusters, white, green or yellow, usually with an orange centre; in open woodland or grassland subjected to frequent burning; 1,110–2,280 m. Zimbabwe and Mozambique northwards to Uganda.

Source. F.T.E.A. Verbenaceae: 33 (1992).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

VIOLACEAE

***Rinorea convallarioides* (Baker f.) Eyles ✧**

Understorey shrub or small tree 1.5–7 m tall; leaves simple, alternate, oblong-elliptic, 40–70 × 15–40 mm, sharply serrate or subentire, hairless except on main veins, petiole 2–4 mm long, channelled above, stipules 3–4 mm long; flowers axillary; fruit a 3-sided capsule to 13 mm long; in evergreen forest; only in submontane forest (below 2,000 m) on the eastern escarpment, but not recorded by Dowsett-Lemaire (1985). Zimbabwe, Mozambique, and Malawi.

Source. Chapman & White (1970: 126).

Malawi. Nyika Plateau, “eastern escarpment Forests”, no specimen located.

***Viola abyssinica* Steud. ex Oliv. ✧**

Chichewa: katongolola

Perennial herb, stems to 600 mm long, trailing or creeping, rooting at nodes, angular or winged; leaves broadly ovate to roundish, base cordate, margins crenate-dentate; flowers single, axillary, on pedicels 10–40 mm long, white to bluish or violet; in moist grassland, moist areas in forest or forest margins; 1,200–2,520 m. Widespread in the mountains of tropical Africa.

Source. *Flora zambesiaca* 1(1): 258 (1960).

Malawi. Nyika National Park, without locality, 1946, Brass 17323 (BM, K, PRE, SRGH); Mpopoti, 2000, Mwanyambo 542 (MAL).

Zambia. Nyika Plateau, near Rest House, 1958, Robson 395 (BM, K, SRGH).

VISCACEAE

***Viscum combreticola* Engl. ✧**

Relatively large dioecious leafless parasitic shrubs, more or less pendulous with age, yellowish green, stems flattened and strongly ribbed, but round with age; berries stalkless, more or less round, 6–7 mm long, warty when young, almost smooth at maturity, orange; a parasite of various hosts, but commonly on *Combretum* and various legumes, including *Brachystegia*. Widespread from D.R.C. and Kenya to Angola and South Africa.

Source. Mill (1979); Polhill & Wiens (1998: 303).

Malawi. Nyika National Park, Chisanga Falls, 1,800 m, 1982, Dowsett-Lemaire 307 (K); Chisanga Falls, 1,800 m, 1986, R.M. Polhill & D. Polhill 5254 (K, MAL).

***Viscum cylindricum* Polhill & Wiens.**

Leafless, dioecious, parasitic shrub with pendulous branches up to 1–2 m long, distal branches flattened, 2–4 mm broad; flowers sessile, single, style indistinct, stigma on elevated mound above tepal scars, berries sessile, oblong, 7–3.5 mm; in forest and high-rainfall *Brachystegia* woodland on various hosts. Only known from Malawi.

Source. Polhill & Wiens (1998: 303); Polhill (2001: 593, fig. 211C).

Malawi. Nyika Plateau, 7 km W. of Chelinda, 1972, Wiens 4614 (K, UT); Nyika National Park, 6.5 km W. of Livingstonia junction, Nya Mkowa, 2,000 m, 1978, Pawek 13846 (BR, K, MAL, MO, WAG).

***Viscum goetzei* Engl.**

Leafless dioecious parasite with flattened stems narrowing to the nodes; berries with a 1 mm long stalk, 3 mm long, smooth, orange; a parasite (epiparasite) of Lorantheae, in evergreen forests to 2,350 m. Southern Highlands of Tanzania, Nyika Plateau, and Eastern Highlands of Zimbabwe.

Source. Polhill & Wiens (1998: 302); Polhill (2001: 593, fig. 211J, K).

Malawi. Nyika National Park, vicinity of Juniper Forest, 2,190 m, 1972, Wiens 4612 (K, MO, P).

***Viscum loranthicola* Polhill & Wiens**

Small, leafless, densely branched parasitic shrub, distal internodes rounded to slightly flattened; flowers sessile, male flowers with anthers fused together; berries orange, sessile, round, smooth, 3 mm diameter; epiparasite on several genera of Lorantheae. Burundi, Tanzania, Zambia, and northern Malawi.

Source. Polhill & Wiens (1998: 297);

Malawi. Rumphi-Chisenga Road, half a km S. of Nyika Road junction, 1,500 m, 1972, Wiens 4607 (K, MAL, MO, UT); 16 km E. of Barrier, 1,650 m, 1976, Phillips 1338 (K, MO, SRGH, WAG).

***Viscum shireense* Sprague**

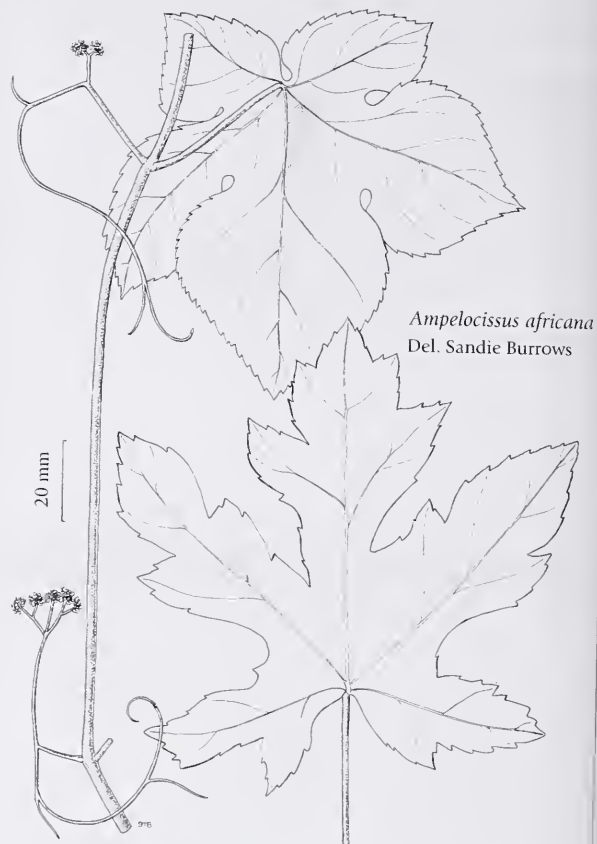
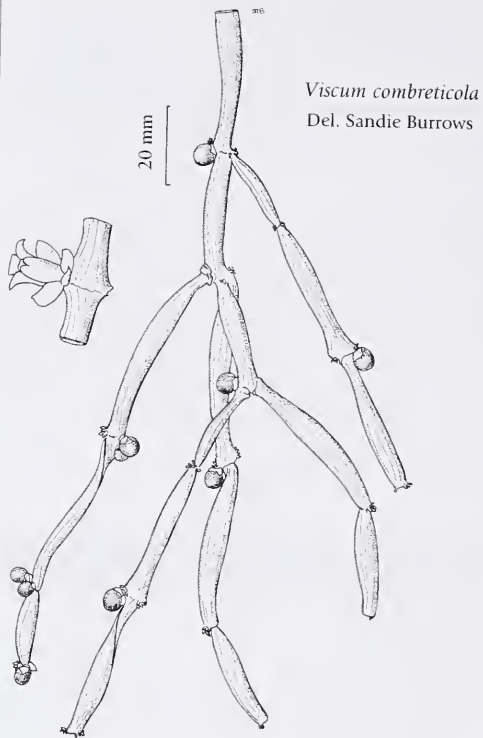
Viscum jumodii Engl., nom. nud.

Leafless dioecious parasite, pendulous with age, stems flattened; berries with a stalk of 1–1.5 mm, round to ellipsoid, 3–5 mm long, smooth, orange; a parasite of various hosts, commonly on *Bridelia*, in high rainfall woodland, riverine forest, and on margins of montane forest; up to 1,700 m. D.R.C., Tanzania, Malawi, Mozambique, Zambia, and Zimbabwe. The citations given below might be misidentifications for allied species, but *V. shireense* is certainly recorded from near Chisenga on the Chambo R. and around Wenya. Furthermore, the closely similar *V. congdonii* Polhill & Wiens, known from Jembya Forest Reserve, is likely to occur. Differences are given in the sources cited above.

Source. Polhill & Wiens (1998: 306); Polhill (2001: 595).

Malawi. Nyika National Park, Kasyaula & Zovochipolo Forests (Dowsett-Lemaire 1985).

Zambia. Nyika National Park, Manyanjere, Kasoma & Chowo Forests (Dowsett-Lemaire 1985).



***Viscum tuberculatum* A.Rich.**

Small, densely branched parasitic shrub; leaves obovate, leathery; flowers in sessile clusters, male and female on same plant; berries orange, sessile, ovoid, 5–6 mm long, densely tuberculate when young; in dry evergreen forest on many

hosts, broadly along the Rift Valleys from Ethiopia to South Africa and Angola. **Source.** Wiens & Polhill (1998: 290); Polhill (2001: 595, fig. 211L, M).

Malawi. Nyika National Park, vicinity of Juniper Forest, 2,190 m, 1972, *Wiens 4611* (K, UT).

VITACEAE

***Ampelocissus africana* (Lour.) Merr. ✧**

Climber or liane with densely hairy branches when young, hairless with age, striate, with branched tendrils; leaves simple, ovate-cordate, entire, or deeply 3- to 5-lobed with toothed margins, hairy or not; flowers borne in dense clusters off the lower part of the tendrils; fruit roundish, ca 10 mm diameter; in woodland or forest margins. Zimbabwe northwards throughout tropical Africa.

Malawi. Nyika National Park, Kasewerera, 2001, without collecting details (Patel & Oveton 2002: 30).

***Cayratia gracilis* (Guill. & Perr.) Suesseng. ✧**

Cissus gracilis Guill. & Perr.

Climbing or trailing herb 1–7 m long, all parts more or less hairless, tendrils present, leaf-opposed; leaves digitate with (3–)5–(9) leaflets, often pedate, leaflets narrowly ovate to ovate or elliptic, coarsely serrate, petiole 40–60 mm long; inflorescence axillary, in tight clusters, peduncle 20–70 mm long, flowers whitish, yellow to pale green; fruit roundish, black, 6.5–10 mm diameter; in tall wooded grassland, forest margins, swampy areas, and riverine forest; 300–1,770 m. South Africa northwards to Senegal, Mali, and Ethiopia.

Source. *Flora zambesiaca* 2(2): 491 (1966); *F.T.E.A. Vitaceae*: 138 (1993).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Cissus rubiginosa* (Welw. ex Baker) Planch. ✧**

Woody or herbaceous climber, sometimes shrubby, 0.5–1.8 m tall, from a thick woody rootstock, all parts set with thick reddish-brown hairs, tendrils to 300 mm long, bifid, hairy; leaves simple, round to broadly elliptic or ovate, base deeply cordate, apex acute to apiculate, margins dentate, hairy throughout, but less so above, petiole to 80 mm long; inflorescence leaf-opposed, peduncle 26–65 mm long, fruit glabrous; in rocky places in *Brachystegia* woodland and riverine forest; 450–1,200 m. N. Mozambique, Malawi, and Zambia northwards to Sierra Leone, Nigeria, Sudan, Uganda, and Tanzania.

Source. *Flora zambesiaca* 2(2): 455 (1966); *F.T.E.A. Vitaceae*: 26 (1993).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Cyphostemma princeae* (Gilg & Brandt) Descoings ex Wild & R.B.Drumm.**

Cyphostemma kerkvoordei (Dewit) Descoings ex Wild & R.B.Drumm.

Erect herb 0.8–1.2 m tall, arising from a woody rootstock, stems hairy with scattered short red or blackish gland-tipped hairs, tendrils absent; leaves digitate with 3–9 leaflets, petioles 0–70 mm long, leaflets sessile, linear-elliptic to obovate-oblongate, irregularly serrate, white-woolly below, sparsely hairy to hairless above; inflorescence terminal or axillary, flowers yellow to green, red-tipped; fruit red, turning black, 8–9 mm long, hairless; in *Brachystegia* woodland on rocky slopes; 1,500–2,250 m. Zimbabwe, Zambia, Malawi, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 2(2): 471–472 (1966); *F.T.E.A. Vitaceae*: 79 (1993).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Cyphostemma vandenbrandeanum* (Dewit) Descoings ✧**

Prostrate, but more usually a climbing vine, climbing to the forest canopy, stems hairy, bearing reddish tendrils; leaves 3- to 5-foliate, leaflets elliptic,

ovate or obovate, apex acute to rounded, more or less hairless above, whitish to reddish velvety below, margins crenate-dentate; inflorescence compact, much-branched, peduncle 20–125 mm long, flowers brown or yellow, red-tipped; fruit red, densely pubescent; in woodland, montane scrub, secondary or montane forest, and on rocky slopes; 1,750–2,450 m. Malawi, Zambia, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 2(2): 484 (1966); *F.T.E.A. Vitaceae*: 102 (1993); White *et al.* (2001: 599).

Malawi. Nyika National Park, Chelinda Bridge, 2000, *Salubeni & Mwanyambo 6769* (MAL); road from Zovochipolo to Chisanga Falls, 2000, *Burrows & Burrows 6770* (PRE).

Zambia. Nyika Plateau, without locality, 1959, *Richards 10412* (K, SRGH); Manyanjere, Kasoma & Chowo Forests, without collecting details (Dowsett-Lemaire 1985: 320).

***Cyphostemma wittei* (Staner) Wild & R.B.Drumm.**

Cyphostemma hermannioides Wild & R.B.Drumm.

Prostrate or scrambling herb 1–2 m long from a thick taproot (red inside), stems hairy with gland-tipped bristles, tendrils absent; leaves simple to 3-foliate, side leaflets much smaller than the terminal leaflet, leaflets oblong, ovate to oblong-elliptic, sometimes 3-lobed, base tapering to cordate, more or less hairless above, sparsely hairy below; inflorescence bright red, peduncle 25–110 mm long, flowers yellow to crimson; fruit red, turning blackish, hairless; in miombo woodland or wooded grassland; 1,050–1,950 m. Malawi, Zambia, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 2(2): 464 (1966); *F.T.E.A. Vitaceae*: 61 (1993); Lebrun & Stork 3: 334 (1995).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Rhoicissus tridentata* (L. f.) Wild & R.B.Drumm. subsp. *cuneifolia* (Eckl. & Zeyh.) N.R.Urton ✧**

Rhoicissus erythroides (Fresen.) Planch.

wild grape; *Chichewa*: mpeza; *Yao*: mpelesya; *Tumbuka*: mpeasya

Perennial shrub to 2 m or liane in forest, branchlets with reddish hairs, bearing simple tendrils; leaves 3-foliate, leaflets narrowly to broadly obovate, lateral leaflets often asymmetric, apex toothed, sometimes shallowly so, base tapering, more or less hairless above, densely velvety below; inflorescence leaf-opposed, compact, peduncle 2–30 mm long, flowers green, red to purplish; fruit roundish, black when ripe, 7–11 mm diameter, fleshy; in wooded grassland, on termite mounds, rocky hillsides in woodland, and in montane forest; 700–2,250 m. South Africa northwards to Nigeria, Ethiopia, and Saudi Arabia. A very variable species throughout its range, divided into two subspecies in South Africa and probably worthy of division into subspecific taxa within tropical Africa. The fruit is edible, juicy, but somewhat astringent.

Source. Brummitt (1973); White *et al.* (2001: 601).

Malawi. Nyika National Park, W. foot of Nganda, 1972, *Brummitt, Munthali & Sygne 72* (K, MAL, SRGH); Domwe, 2000, *Mwanyambo 566* (MAL); between Zambian Rest House and Thazima, 2000, *Burrows & Maroyi 6834* (MAL, PRE).

Zambia. Nyika Plateau, Manyanjere, Kasoma, and Chowo Forests, without collecting details (Dowsett-Lemaire 1985: 320).

Excluded species

***Cissus grisea* (Baker) Planch.**

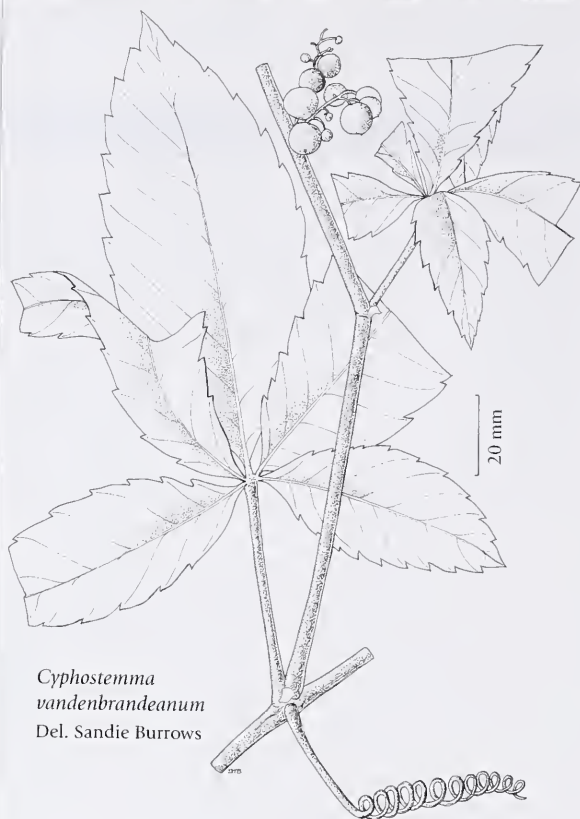
C. grisea is a species of low altitudes (200–950 m) in riverine bush and rocky hills. Its maximum altitude is lower than the lowest point on Nyika and it is most likely that this record is a misidentification for the similar *C. rubiginosa* (see above).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

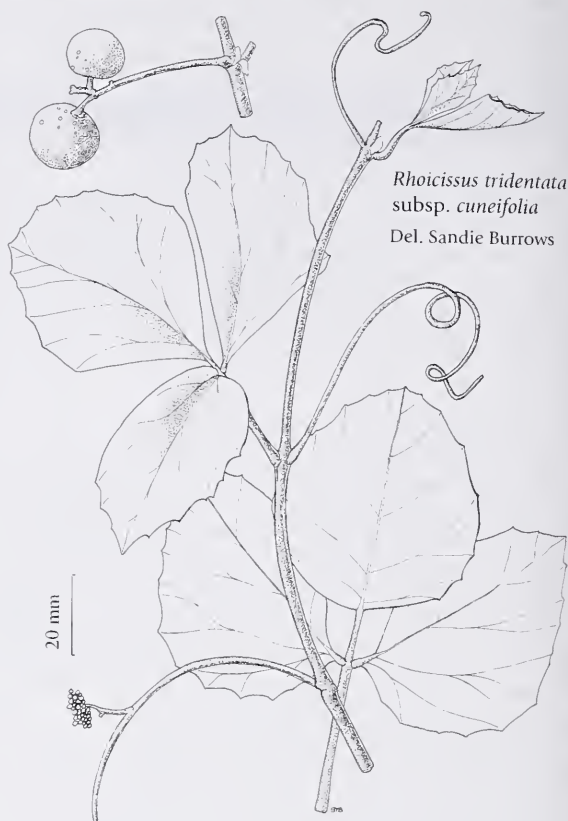
Cissus rupestris

An unauthored name listed in Patel & Overton (2002). No such name is recorded in *Flora zambesiaca* (1966), *F.T.E.A.* (1993), or in Lebrun & Stork (1995).

Malawi. Nyika National Park, Chipome Valley, 2001, without collecting details (Patel & Overton 2002: 32).



*Cyphostemma
vandenbrandeanum*
Del. Sandie Burrows



Rhoicissus tridentata
subsp. *cuneifolia*
Del. Sandie Burrows



Boophane disticha
Del. Sandie Burrows



Cyrtanthus breviflorus
Del. Sandie Burrows



MONOCOTYLEDONS

AMARYLLIDACEAE

Boophane disticha (L.f.) Herb. ❖●

Bulbous herb, with a large bulb to 250 mm diameter; leaves deciduous, arranged in a distinctive fan, to 600 mm long, linear-oblong, often twisted, grey-green; flowers in a large round inflorescence of 50 or more flowers, each flowering on a long (30–100 mm) stalk, flowers pink to purplish; fruit a 3-lobed capsule; in grassland or open woodland on well-drained soils; 200–2,500 m. South Africa to Angola, D.R.C., Uganda, Kenya, and Tanzania.

Source. *F.T.E.A.* Amaryllidaceae: 21 (1982).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Cyrtanthus breviflorus Harv. ❖●

Anoiganthus breviflorus (Harv.) Baker; *Cyrtanthus luteus* Baker

Small bulbous plant; leaves appearing with or after the flowers, green to greyish, linear, to 380 mm long (usually less), 3–9 mm broad; inflorescence with 1–5 flowers, flowers bright yellow, tubular, often narrowing at the mouth; fruit a capsule; in moist montane grasslands, in upland bogs or

dambos, and along streams; 1,650–2,500 m. South Africa to Angola, D.R.C., Kenya, and Tanzania.

Source. Brummitt (1973); *F.T.F.A.* Amaryllidaceae: 26 (1982).

Malawi. Nyika National Park, between Nganda and Muzengapakweru, 1972, *Synge* 360 (K).

Scadoxus multiflorus (Martyn) Raf. subsp. **multiflorus** ❖●

Haenianthus multiflorus Martyn

Bulbous herb 150 mm to 1 m tall, petioles forming a false stem; leaves lanceolate to ovate, appearing after flowering; inflorescence large, roundish, 100–200 mm diameter, composed of 10–200 scarlet flowers with spreading lobes, fading to pink with age; fruit a red or pink berry 5–10 mm diameter; in a wide variety of habitats, from woodland, riverine vegetation, montane forest or grassland; to 2,700 m. Throughout tropical Africa, from South Africa to Yemen.

Source. *F.T.E.A.* Amaryllidaceae: 4 (1982).

Malawi. Nyika Plateau, locally occasional (Dowsett-Lemaire 1985: 319).

Zambia. Nyika Plateau, locally occasional (Dowsett-Lemaire 1985: 319).

ANTHERICACEAE

Chlorophytum blepharophyllum Schweinf. ex Baker

Plants single or clumped, 100–400 mm tall, rhizome small, roots spongy with tubers at tips; leaves rosulate, discolourous, lanceolate, 100–300 x 15–40(70) mm, channelled, glabrous, margins hyaline and ciliate; inflorescence usually unbranched, 80–150 mm long, flowers whitish tinged greenish cream to brownish, petals reflexed, 6–8 x 1.5–2.5 mm; in open miombo woodland and grassland, on rocky outcrops, often in light sandy and stony soils; 50–2,450 m. Widespread in Africa, from Mozambique and Zimbabwe to Angola, Senegal, and Ethiopia.

Source. *F.T.F.A.* Anthericaceae: 51 (1997).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Chlorophytum cameronii (Baker) Kativu var. **pteroaulon** (Baker) Nordal

Anthericum pterocaulon Welw. ex Baker; *Anthericum buchananii* Baker;

Chlorophytum pterocaulon (Welw. ex Baker) Kativu

Plants tufted, 100 mm to 1 m tall, rhizome short, roots thin, wiry; leaves more or less distichous, broadly linear to lanceolate, 100–800 x 5–40 mm, glabrous, margins and midrib sometimes ciliate; inflorescence usually unbranched, to 250 mm long, rachis winged in lower part, peduncle hairless, flowers white to pinkish, aging to reddish, petals 10–15 x 4–7 mm; capsule obovoid, 6–8.5 mm long; in open woodland and grassland, in seasonally wet areas, and in swampy places; 0–3,300 m. Widespread in tropical Africa from Mozambique and Zimbabwe to Cameroon, Sudan, and Ethiopia. It is possible that more than one subspecies of *C. cameronii* occurs on Nyika.

Source. Kativu (1994: 72); *F.T.E.A.* Anthericaceae: 32 (1997).

Malawi. Nyika National Park, Chelinda Bridge, 1975, *Phillips* 1061 (K, MO); without locality or collecting details, subspecies unknown (Mill 1979).

Chlorophytum colubrinum (Welw. ex Baker) Engl. ❖

Anthericum colubrinum Welw. ex Baker; *Chlorophytum campanulatum* (Baker) Engl.

Plants often in clumps, 0.2–1.5 m tall, rhizome thick, moniliform, roots spongy, without tubers; leaves more or less distichous, 120–750 x 5–25(40) mm, margins scabrid to shortly ciliate; inflorescence a narrowly spicate raceme, more or less unbranched, flowers white, petals 6–10 x 1.5–3 mm; capsule obovoid, 4–8 x 3.5–5 mm; in open woodland or wooded grassland, often on stony soils in rocky areas; 500–3,000 m. Mozambique and Zimbabwe to Angola, D.R.C., Rwanda, and Tanzania.

Source. *F.T.E.A.* Anthericaceae: 19 (1997).

Malawi. Nyika National Park, without locality or collecting details (Patel

1999); Chisanga Falls, 2000, *Burrows & Burrows* 6789 (MAL, PRE).

Zambia. Nyika Plateau, Chowo Rocks, 1968, *Simon, Williamson & Ball* 1665 (B, SRGH).

Chlorophytum floribundum Baker

Plants 160–550 mm tall, rhizome short, vertical, roots narrow, bearing round tubers; leaves 4–13, rosulate, lanceolate to elliptic, 100–400 x 10–50 mm, sharply pointed, hairless; inflorescence of branched racemes, flowers greenish to whitish with a green keel, petals 5–8 x 1–2 mm; in open miombo woodland, often on termite mounds; 800–2,150 m. Zimbabwe, Malawi, Zambia, and Tanzania.

Source. Kativu (1994: 60); *F.T.E.A.* Anthericaceae: 47 (1997).

Malawi. Nyika Plateau, 1.5 km N. of M1 road, 1978, *Pawek* 13707 (K, MA).

Chlorophytum leptoneurum (C.H.Wright) Poelln.

Plants small, 50–80(120) mm high, growing in clumps, rhizome horizontal, stoloniferous, roots reduced to elongate tubers; leaves rosulate, more or less prostrate, linear to oblanceolate, 30–100 x 5–20 mm, hairless above, hairy below, margins ciliate; inflorescence dense, unbranched, flowers white; capsule roundish, 2.5–3 mm diameter; in open miombo woodland and grassland, on bare patches, often on sandy soils; 800–2,600 m. Zimbabwe, Malawi, Zambia, Angola, D.R.C., and Tanzania.

Source. Kativu (1994: 65); *F.T.F.A.* Anthericaceae: 22 (1997).

Malawi. Nyika Plateau, Nacheri, 1903, *McClounie* 89 (K, holo.; B, iso.).

Chlorophytum nyassae (Rendle) Kativu

Chlorophytum glabriflorum C.H.Wright

Plants 180 mm–1.4 m tall, rhizome vertical, without tubers; leaves linear-lanceolate, clasping below, 90–700 x 4–20 mm, glabrous, midrib and veins prominent, margin flat; inflorescence a loose panicle, flowers white to yellowish, petals 7–11 mm long; capsule obovoid, ca 8 mm long; in montane grassland and scrubland, often in gullies and around water courses, on stony ground; 800–2,800 m. Malawi, Zambia, and Tanzania.

Source. Kativu (1994: 69); *F.T.E.A.* Anthericaceae: 13 (1997).

Malawi. Nyika Plateau, Dembo Bridge, 1976, *Phillips* 906 (MO, K).

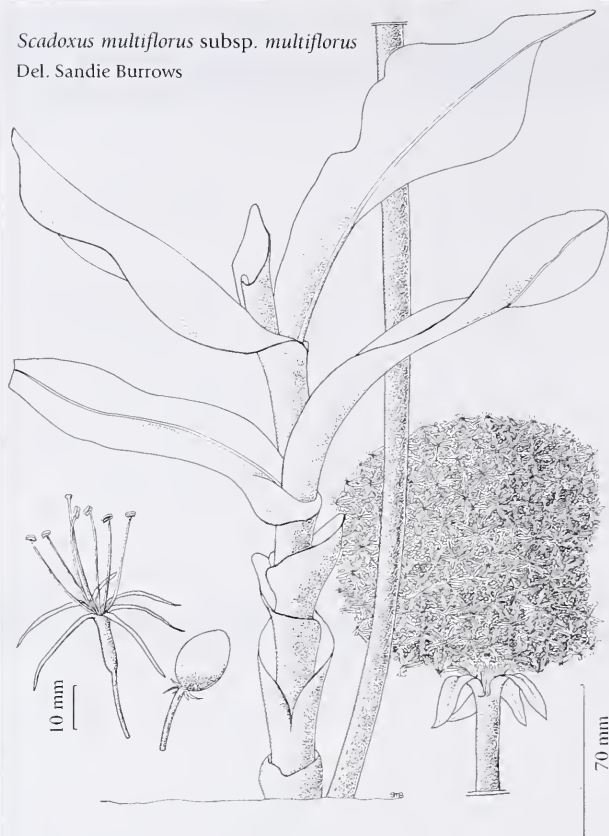
Zambia. Nyika Plateau, close to border with Malawi, 1961, *Richards* 14389 (K).

Chlorophytum sphacelatum (Baker) Kativu

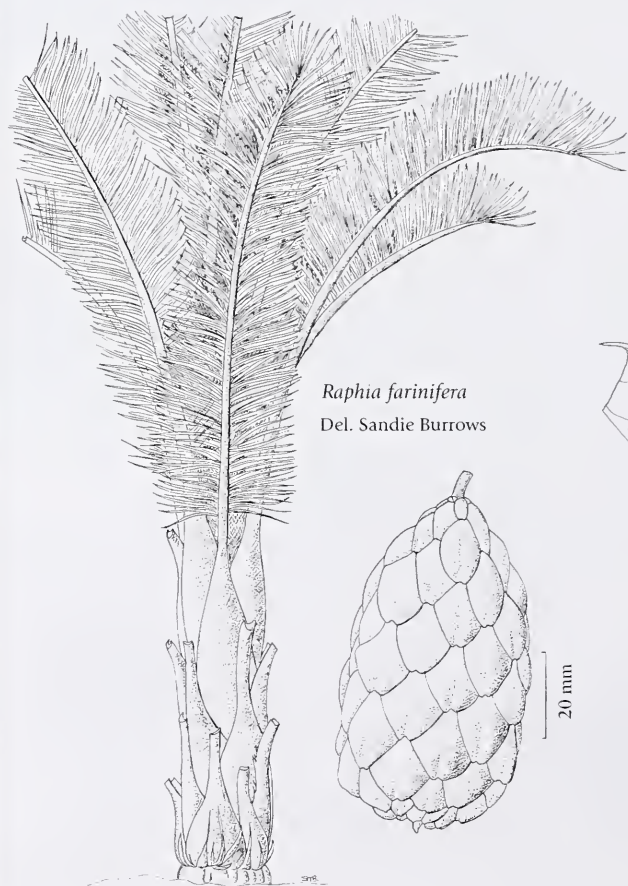
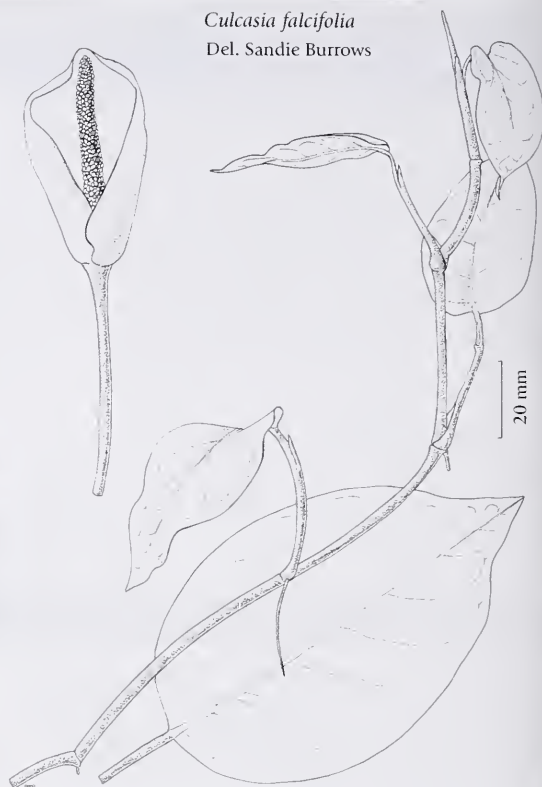
Anthericum sphacelatum Baker

Plants 0.35–1.5 m tall, rhizome horizontal, roots many, thin, bearing tubers; leaves ca 8, distichous, lanceolate, 180 mm to 1 m x 5–40 mm, with

Scadoxus multiflorus subsp. *multiflorus*
Del. Sandie Burrows

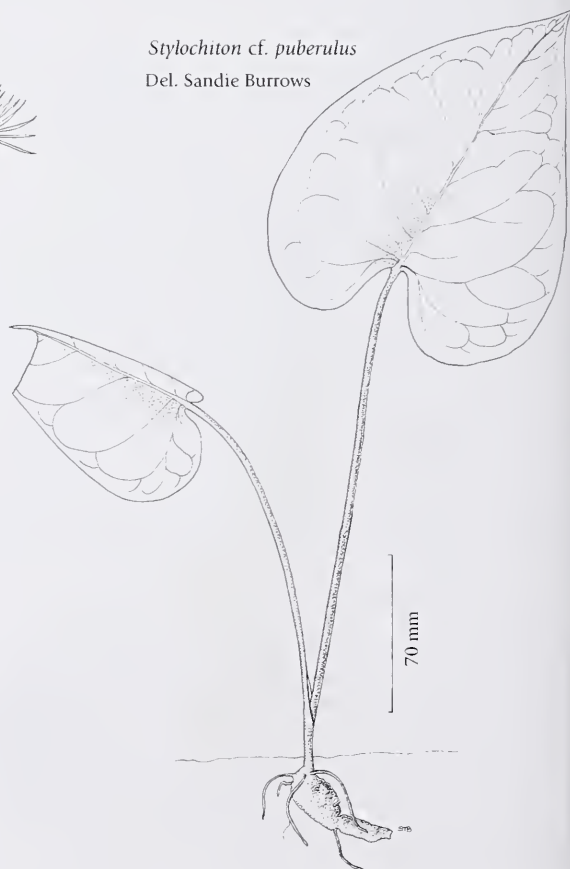


Culcasia falcifolia
Del. Sandie Burrows



Raphia farinifera
Del. Sandie Burrows

Stylochiton cf. *puberulus*
Del. Sandie Burrows



numerous raised ribs and a narrow yellow scabrid or ciliate margin, ribs minutely hairy or not; inflorescence unbranched or with 2 small branches near the base, to 120 mm long, flowers white, petals 9–11 mm long; capsule 6–8 x 5–6 mm; in open woodland and grassland. Centred on Zimbabwe, Zambia, Malawi, and Tanzania; three subspecies occur in Malawi, but the subspecies on Nyika is not recorded by Patel (1999).

Source. Kativu (1994: 76); *F.T.E.A.* Anthericaceae: 34 (1997).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Chlorophytum stolzii* (Krause) Kativu**

Plants large, 0.85–2.5 m tall, rhizome moniliform, roots with long tubers; leaves more or less distichous, sheathing basally, broadly linear, to 800 x 20–35 mm, glabrous; inflorescence unbranched or almost so, to 700 mm long, flowers white with a green keel, petals 12–20 x 3–7 mm, pedicels articulated near middle; capsules obovoid, 10–12 mm; in open miombo woodland and tall grassland; often in wet places and along stream banks; 800–2,000 m. Mozambique, Malawi, Zambia, D.R.C., Burundi, and Tanzania.

Source. Kativu (1994: 78); *F.T.E.A.* Anthericaceae: 15 (1997).

Malawi. Nyika National Park, Mbuzinandi Road, 1977, Pawek 12930 (K, MAL, MO).

***Chlorophytum subpetiolatum* (Baker) Kativu**

Anthericum subpetiolatum Baker; *Anthericum dimorphum* Poelln.;

Anthericum stolzii Engl. & Krause

Plants variable, clumped or single, 100–400 mm tall, rhizome erect or horizontal, moniliform, roots fusiform, peduncles papillate to hairy, flowers relatively large, star-shaped, white, sometimes tinged greenish, petals 8–15

x 2.5–4 mm; in open woodland, grasslands, shallow soils over sheetrock, and seasonally flooded areas; 50–2,450 m. Widespread in Africa, from Zimbabwe to Nigeria and Ethiopia.

Source. Kativu (1994: 79); *F.T.E.A.* Anthericaceae: 36 (1997).

Malawi. Nyika Plateau, Nganda Peak, 1974, Pawek 7927 (K, MAL, MO, SRGH, UC).

***Chlorophytum vestitum* Baker**

Plants 300–700 mm tall, rhizome horizontal, narrow, roots fibrous, with few tubers; leaves more or less distichous, grass-like ciliate to hairy, 200–500 x 2–6 mm; inflorescence a lax panicle, flowers yellowish green, petals 3–4 x 1 mm; capsule 3–4 x 4–5.5 mm; in open woodland and wooded grassland, often in shade; 950–1,600 m. Malawi, Zambia, D.R.C., and Tanzania.

Source. Kativu (1994: 81); *F.T.E.A.* Anthericaceae: 15 (1997).

Malawi. Nyika Plateau, 1973, Phillips 838 (K).

***Chlorophytum zingiberastrum* Nordal & A.D.Poulsen**

Chlorophytum orchidastrum sensu Kativu (1994), non Lindl. (1824)

Plants 150–700 mm high with a short pseudostem, rhizome short, vertical, roots thin with elongate tubers; leaves lanceolate to oblanceolate, 100–400 x 30–80 mm, glabrous, acute to attenuate; inflorescence a lax panicle 120–180 mm long, flowers greenish, petals 4–6 x 1–1.5 mm; in *Brachystegia* woodland, on sandy to gritty-clayey soils overlying rocks, and on termite mounds; 550–1,950 m. Mozambique, Malawi, Zambia, and Tanzania.

Source. Kativu (1994: 700); *F.T.E.A.* Anthericaceae: 48 (1997).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

ARACEAE

***Culcasia falcifolia* Engl. ✧**

Culcasia scandens auctt., non P.Beauv.

Ground-creeping or climbing vine adhering to tree trunks by means of adventitious roots; petiole 60–150 mm long, sheath more than half the petiole length, lamina asymmetrically elliptic to ovate, sometimes falcate, 82–260 x 35–105 mm; inflorescence 1–4 inserted at nodes, peduncle 45–140 mm long, spathe 25–50 mm long, greenish white to yellowish, partly enclosing the narrowly cylindric spadix; fruit a cluster of orange to dark red berries; in mid-altitude rainforest and swamp forest; 750–1,800 m in Malawi, Mozambique, and Zimbabwe, through eastern Africa to Sudan and Ethiopia.

Source. *F.T.E.A.* Araceae: 18 (1985); White *et al.* (2001: 93).

Malawi. Nyika Plateau, Mwanembwe (Chapman & White 1970: 126).

***Stylochiton* cf. *puberulus* N.E.Br. ✧**

Seasonally dormant herb with distinctive, broadly triangular leaves with cordate-sagittate bases; in woodlands. The identity of this collection as *S. puberulus* is questionable; according to Mayo in *F.T.E.A.* Araceae (1985), this species does not occur above 500 m and it is therefore unlikely that it would be found on the Nyika. Although the genus undoubtedly occurs there, the species involved needs to be confirmed.

Source. *F.T.E.A.* Araceae: 49 (1985).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

ARACEAE

***Raphia farinifera* (Gaertn.) Hylander ✧●**

Raphia vinifera sensu Mill (1979), non P.Beauv.

Massive palm 15–25 m tall, often with a number of stems, stem to 0.6 m diameter; leaves large, to 20 m long, erect and somewhat arching, pinnate, the leaflets linear-elliptic, margins with a few sharp spines; inflorescence borne in the axils of the leaves, massive, to 3 m long, drooping, ultimately bearing numerous 'hand grenade-like' fruit with reddish brown plastic-like scales; in seepage zones in woodland, in riverine forests, and swamp forest;

up to 2,500 m in E. Africa, to ca 1,800 m on Nyika. From Zimbabwe northwards to Zambia, D.R.C., Tanzania, Uganda, and Kenya. Most easily seen in the Thazima Gate area. The woody midribs of the palm fronds are used for roof rafters and for furniture. The fruits are the staple diet of the Palm-nut Vulture (*Gypohierax angolensis*) and the distribution of the two organisms is often closely inter-linked.

Source. *F.T.E.A.* Palmae: 38 (1986).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Excluded species

***Borassus* sp.**

The only species in Africa, *Borassus aethiopum* is a very distinctive and conspicuous palm of low-altitudes and it is highly unlikely that it would

occur as a constituent of the plateau flora. If it did occur within the boundaries of the Park, other collectors certainly would have sighted it.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

ASPARAGACEAE

***Asparagus angolensis* Baker**

A much-branched more or less scandent shrub, branches hairy; leaves (cladodes) in dense clusters, subulate, 12–19 mm long; flowers many, in a fascicle, stalks ca 4.5 mm long, articulated near base; flowers ca 3 mm long; habitat unknown. Described from Angola. This name is widely used in Malawi, but its application is uncertain. Since there has been no modern

revision of the tropical African *Asparagus*, this taxon is included here with some reservation.

Source. *F.T.A.* 7: 432 (1898).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999); Chelinda Bridge, 2000, Thera 3033 (MAL).

Asparagus asparagoides (L.) Druce ❖

Myrsiphyllum asparagoides (L.) Willd.; *Asparagus medeoloides* (Thunb.)

Baker var. *angustifolius* (Mill.) Baker

Slender twining herb or small perennial climber, sometimes deciduous, spineless; leaves (cladodes) ovate-acuminate, 25–40 x 8–20 mm, flattish, with 3–several more or less parallel veins on each side of the midrib, hairless; flowers pendulous on slender stalks ca 10 mm long; fruit a round berry, 10 mm diameter; in montane forest or scrub, forest margins, and along stream banks. Widespread in South Africa, northwards to Tanzania; an invader plant in Australia.

Source. Obermeyer & Immelman (1992: 73).

Malawi. Nyika National Park, Lake Kaulime, 2000, *Phiri* 3722 (UZL); *ibid.*, 2000, *Burrows & Burrows* 6870 (PRE); without locality or collecting details (Mill 1979).

Zambia. Nyika Plateau, Chowo Forest, *White* 2781 (White *et al.* 2001: 93).

Asparagus laricinus Burch. ❖

Erect densely-branched shrub 1–2 m tall, stems and branches pale whitish green, usually finely ribbed, spines short, hard, on stems and branches; leaves (cladodes) up to 60 in a cluster, stiff, filiform, up to 35 mm long; flowers 1–8 on outside of leaf clusters, white; fruit a red berry, 5 mm diameter; in grassland, open woodland, and scrub. South Africa to tropical Africa.

Source. Obermeyer & Immelman (1992: 33).

Malawi. Nyika National Park, 8 km E. of Nganda, 1972, *Brummitt & Syngé* 34 (K); Lake Kaulime, 2000, *Burrows & Burrows* 6869 (PRE).

No country given. 1967, *Richards* 22640 (UZL).

Asparagus plumosus Baker

Protasparagus plumosus (Baker) Oberm.

Scandent stoloniferous evergreen perennial with branches, branchlets and cladodes (leaves); leaves ca 12 in compressed clusters, terete, glabrous, glossy dark green, very fine; flowers apical, white, stalks 2–3 mm long, articulated near base; fruit a red berry, 4 mm diameter; in understorey of forests. From South Africa (Eastern Cape) northwards to E. Africa. Often cultivated for its delicate foliage. See also notes under *A. setaceus*.

Source. Obermeyer & Immelman (1992: 59).

Malawi. Nyika Plateau, occasional in all forests (Dowsett-Lemaire 1985: 320); without locality, 1896, *Whyte* s.n. (K).

Zambia. Nyika Plateau, occasional in all forests (Dowsett-Lemaire 1985: 320).

Asparagus racemosus Willd.

Protasparagus racemosus (Willd.) Oberm.

Tall climber or a tangled shrub with shiny yellowish stems and soft feathery branches, usually leafless when in flower; leaves (cladodes) 4–8 per cluster, unequally long, filiform, 10–16 mm long; flowers in simple racemes 20–30 mm long, white with a reddish streak; fruit a red berry, 7 mm diameter; in thickets or scrub in frost-free, high-rainfall savannas. Eastern Cape to Botswana, Namibia, and widespread in tropical Africa and eastwards to India.

Source. Obermeyer & Immelman (1992: 45).

Malawi. Nyika National Park, S. slopes of Kawoza, 1972, *Brummitt & Syngé* 185 (K, MAL, SRGH).

Asparagus setaceus (Kunth) Jessop

Protasparagus setaceus (Kunth) Oberm.; *Asparagus plumosus* auctt. non Baker

Evergreen perennial, erect or often scandent, to 2 m tall, hairless throughout, stems with a few short spines below, spineless above, branches more or less twining; leaves (cladodes) numerous, spreading, filiform, to 15 mm long, soft, shiny; flowers solitary, white; fruit a black berry, 5 mm diameter; in undergrowth of scrub or forest, less common than *A. plumosus*. South Africa to tropical Africa. This species is often quoted from Malawi, but its species concept is frequently confused. White *et al.* (2001) states that '*A. setaceus*' is 'very widespread' in Malawi and draws attention to its fine cladodes 'all in the same plane', which is a defining characteristic of true *A. plumosus* (Obermeyer & Immelman 1992: 59). Therefore it seems possible that only *A. plumosus* occurs on the Nyika Plateau.

Source. Obermeyer & Immelman (1992: 58); White *et al.* (2001: 95).

No country given. 1967, *Richards* 22754 (UZL).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Chosi Viewpoint, 2000, *Chapama* 149 (MAL).

Zambia. Nyika Plateau, Manyenere Forest, 2000, *Phiri* 4033 (UZL); Chowo Forest, 2000, *Phiri* 4013 (UZL).

Asparagus virgatus Baker

Protasparagus virgatus (Baker) Oberm.

Erect stiff shrubs 0.75–1 m tall, with one to a few, green, angled stems and thin, stiff branches; leaves (cladodes) 1–7, filiform, 4–20 mm long, unequal; flowers solitary, pendulous along the branches, stalks ca 7 mm long, articulated in lower half; fruit a red berry, 5 mm diameter; in dry forest, riverine forest, scrub or woodland. Eastern Cape to Namibia, Angola, Zimbabwe, Malawi, and E. Africa.

Source. Obermeyer & Immelman (1992: 31).

Malawi. Nyika National Park, 8 km E. of Nganda, 1972, *Brummitt, Munthali & Syngé* 129 (K, MAL).

Excluded species

Asparagus africanus Lam.

This species is not recorded from tropical Africa (Obermeyer & Immelman

1992) and it would appear that this is a misidentification.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

ASPHODELACEAE

The genus *Aloe* is sometimes treated within a separate family, the Aloaceae (Carter 2001).

Aloe christianii Reynolds

Succulent, usually solitary, rarely suckering, stemless or with a stem to 1 m tall; leaves erect-spreading, to 0.6 m long, basal width ca 120 mm, light bluish green, tinged pinkish in drought, unspotted, faintly lined, margins with strong brown-tipped teeth; inflorescence erect, 1–2 m tall, with 6–10 erect branches, flowers coral-pink, stamens exerted ca 4 mm; in partial shade in *Brachystegia-Isobertina* woodland, or sometimes in medium to tall grasslands, never on rocks; 300–1,675 m. Zimbabwe, Mozambique, Malawi, Zambia, D.R.C., and Tanzania.

Source. Reynolds (1966); Carter (2001).

Malawi. ?Nyika, 62 miles (99 km) N. of Rumphi, 1960, *Leach & Brunton* 10354 (K, LISC, PRE, SRGH).

Aloe duckeri Christian

Solitary succulent or suckering to form small clusters of plants, stemless or with a short stem; leaves spreading, in a dense rosette, 0.5–0.8 m long, 80–

120 mm at the base, dull green, sparsely spotted or without spots, often faintly streaked on both surfaces, margins with strong red-brown teeth; inflorescence erect, 1–2 m tall, 3- to 9-branched, branches curving upwards, flowers orange-red to coral-pink, stamens slightly exerted; in montane grassland and high-rainfall miombo; 1,000–2,350 m. Malawi, Zambia, and S.W. Tanzania. Locally abundant on the Nyika.

Source. Reynolds (1966); Carter (2001).

Malawi. Nyika Plateau, near Chelinda Rest House, 1958, *Reynolds* 8642 (K, PRE, SRGH); western foot of Nganda, 1972, *Brummitt & Syngé* WC3 (EA, K, MAL, PRE, SRGH).

Aloe mzimbana I. Verd. & Christian ❖●

Stemless succulent, suckering to form dense groups of plants; leaves in a dense rosette, spreading-erect, 200–350 mm long, 70–80 mm wide at the base, greyish green, with few to many large, elongated white spots on both surfaces, margins with large sharp brown-tipped teeth; inflorescence erect

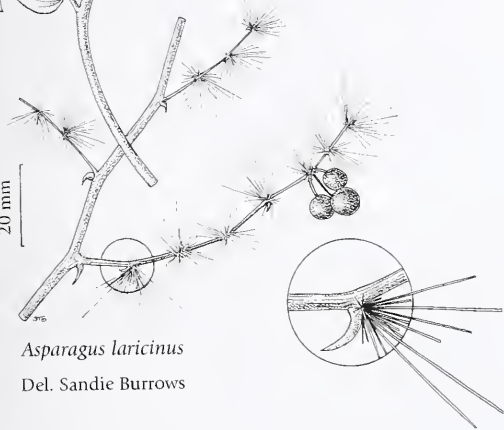
Asparagus asparagoides



20 mm

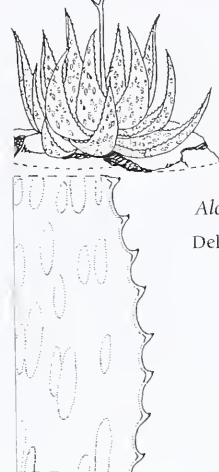
Asparagus laricinus

Del. Sandie Burrows



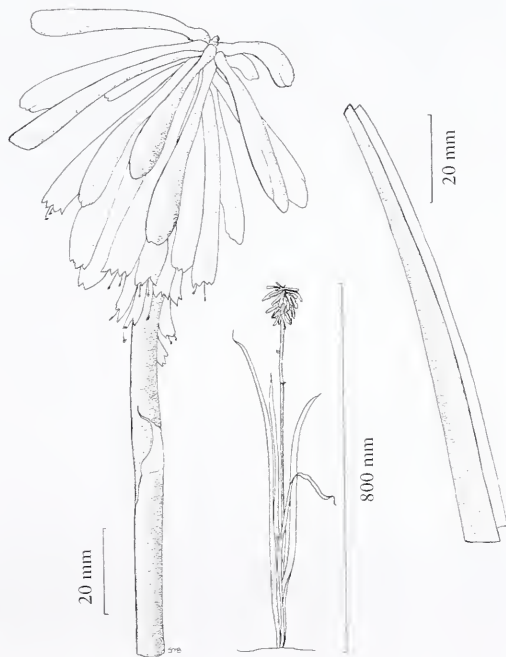
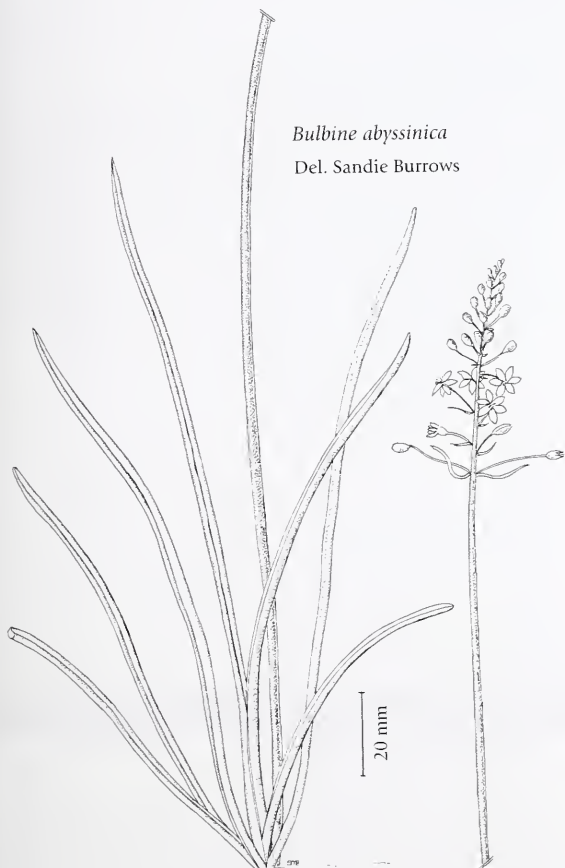
Aloe mzimbana

Del. Pat Halliday



Bulbine abyssinica

Del. Sandie Burrows



Kniphofia grantii

Del. Sandie Burrows

to 600 mm tall, with 1–6 spreading branches; flowers bright coral-red, stamens slightly exserted; in montane grassland and rocky outcrops; 1,280–2,300 m. Malawi, Zambia, D.R.C., and Tanzania. An exceedingly variable species.

Source. Reynolds (1966); Carter (2001).

Malawi. Nyika Plateau, large numbers on rocks 3 km S.W. of Chelinda Rest House, 1958, *Reynolds 8643* (K, PRE, SRGH).

Zambia. Nyika Plateau, 1968, *Williamson 966* (SRGH).

***Aloe nuttii* Baker ●**

Aloe mketiensis Christian

Erect succulent herb, suckering to produce 2–12 stems; leaves erect, grass-like, 400–500 mm long, linear, tapering to the apex, channelled towards the apex, white-spotted near the base, margin with minute white teeth in lower half; flowers in an erect inflorescence 0.6–0.8 m long, coral-pink to orange-red, green-tipped, stamens scarcely exserted; in montane grassland and high-rainfall miombo woodland; 1,450–2,400 m. Malawi, Zambia, Angola, D.R.C., and Tanzania. Nearest allied to the Malawian species *A. buechananii* Baker.

Source. Reynolds (1966); Carter (2001).

Malawi. Nyika Plateau, Nchena-Chena Spur, 1946, *Brass 17147* (K); above Nchena-Chena, 1956, *Reynolds 8187* (K, PRE); Domwe Viewpoint, 2000, *Thera 3064* (MAL).

***Bulbine abyssinica* Hochst. ex A.Rich. ✧**

Bulbine asphodeloides auct., non (L.) Willd.

Tufted, hairless perennial herb 100–660 mm tall; leaves 5–many, erect to arching, fleshy, grass-like, round to very narrowly linear, 2–6 mm wide; inflorescence 100–500 mm tall, with numerous yellow flowers clustered towards the top; in montane grassland, near dambos, in miombo woodland, in seepage areas, and on shallow soils over sheetrock; 750–2,400 m. Eastern Africa, from South Africa to Ethiopia.

Source. *Flora zambesiaca* 12(3): 42 (2001).

Malawi. Nyika National Park, 25 km S.E. of Chelinda Camp on Kasaramba Road, 1977, *Grosvenor & Renz 1190* (K, SRGH); Mwanda Ridge, 2000, *Winter 4183* (MAL).

?Zambia. Nyika Plateau, 1955, *Lees 64* (UZL).

***Kniphofia grantii* Baker ✧●**

Kniphofia zombensis Baker

Chichewa: kaluatete

Plants not clump-forming, with 1–3 shoots; leaves variable, linear to lanceolate, 60–750 x 20–38 mm, margins and keel smooth to minutely serrate; inflorescence stalks 0.3–1.2 m long, head a dense ovoid raceme 50–150 mm long, flowers yellow to yellowish green, 15–39 mm long, stamens shortly exserted; in montane grassland, also in seasonally flooded areas, flowering September–May with a peak in October–January; 780–2,700 m. Zambia, Malawi, D.R.C., Rwanda, Burundi, Uganda, and Tanzania.

Source. Marais (1973: 476); *Flora zambesiaca* 12(3): 29 (2001).

Malawi. Nyika National Park, toward Chelinda Bridge, 1969, *Pawek 3268* (K); edge of Dam #2, 1975, *Phillips 1269* (K, MO).

Zambia. Nyika Plateau, without locality, 1955, *Lees 123* (herbarium unknown).

***Kniphofia linearifolia* Baker ●**

Kniphofia longistyla Baker; *Kniphofia rhodesiana* Rendle

Chichewa: kaluatete

Robust, clump-forming plants; leaves 0.5–1.6 m x 8–20 mm, very strongly keeled, margins smooth or minutely serrulate; inflorescence with a peduncle to 1.5 m long, head a slender raceme 50–120 mm long, ovoid to lanceo-

late, the apex often tapering narrowly, flowers 25–40 mm long, yellow-orange to red; in montane grassland or swampy areas; 1,550–2,700 m. South Africa, Zimbabwe, Mozambique, and Malawi, reaching its northern limit on the Nyika. It is doubtful if the Nyika material is the same as the South Africa species.

Source. Marais (1973: 475); *Flora zambesiaca* 12(3): 31 (2001).

Malawi. Nyika Plateau, Game Park, Mapopo area, *Richards 22615* (herbarium not recorded); Chelinda Stream at Chelinda Camp, 1958, *Robson & Angus 382* (K, LISC, PRE); without locality, 2000, *Willis 35* (PRE); near Chelinda Camp, 2000, *Kasakula 237* (MAL).

No country given. 1958, *Robson 427* (UZL).

***Kniphofia princeae* (Berger) Marais ●**

Chichewa: kaluatete

Plants solitary, 1.3–3 m tall; leaves 1.8–2 m x 23–37 mm, strongly keeled, margins serrulate; inflorescence with a peduncle to 2.5 m long, heads in dense or lax racemes 350–600 mm long, flowers 25–38 mm long, orange-red, vermilion or orange with yellow tips, anthers mostly included; in grassland or montane scrub along streams and on forest margins; 1,830–2,286 m. E. D.R.C., S. Tanzania, and N. Malawi.

Source. Marais (1973: 470); *Flora zambesiaca* 12(3): 31 (2001).

Malawi. Nyika Plateau, Sangule Kopje, *Brummitt 10749* (K); Businande Road, 1976, *Phillips 1626* (M, SRGH).

***Kniphofia reynoldsii* Codd**

Robust perennial with inflorescences 1–2.5 m tall; leaves 0.8–2 m long, 40–50 mm wide at base, linear, keeled, margins entire or minutely serrate; flowers in a slender raceme 0.5–0.7 m long, spiciform, white, cream, greenish, tipped with brown, 7.5–11 mm long; in rank grassland or scrub in montane grassland or miombo woodland; 1,250–2,000 m. Zambia, Malawi, and Tanzania. The very tall, slender inflorescences of this species are unmistakable.

Source. Marais (1974: 480); *Flora zambesiaca* 12(3): 27 (2001).

Malawi. Nyika National Park, Chisanga Falls slope, 2000, *Mwanyambo 494* (MAL); edge of Kafwimba Forest, 1973, *Pawek 6579* (K, MO, UC).

***Trachyandra malosana* (Baker) Oberm.**

Tufted grass-like herb to 450 mm tall; leaves many, to 300 x 3 mm, linear, triangular in section, with scattered bristles, and glands arranged in 2–4 rows along the margins and midrib; inflorescences 1–5, branched, appearing before the leaves, peduncle and branches pubescent-glandular, flowers with spreading lobes, white or cream with a reddish keel; capsule 2.5–4 mm long, 3-lobed, densely tuberculate; a pyrophyte in montane grassland; 1,900–2,500 m. Known only from Malawi and E. Zimbabwe.

Source. Brummitt (1973: 67); *Flora zambesiaca* 12(3): 38 (2001).

Malawi. Nyika National Park, Chelinda Camp near Chelinda Stream, 1958, *Robson & Angus 391* (K); Kasaramba View Road, 1969, *Pawek 3312* (K); S. slopes of Nganda, 1972, *Synge 464* (K, MAL, SRGH, PRE).

***Trachyandra saltii* (Baker) Oberm. ✧**

Anthericum saltii Baker

Perennial grass-like herb 150–750 mm tall; leaves to 600 mm long, 1.5–6 mm wide, flat or 3-angular in section, hairless or with long straight hairs; inflorescences 1–6, unbranched, peduncle hairless or not, flowers white; capsules 2–5 mm long, roundish to 3-lobed, not tuberculate; in rocky montane grassland, forest margins, in open miombo woodland, and on rocky outcrops; 5–2,350 m. South Africa through eastern Africa to Ethiopia.

Source. *Flora zambesiaca* 12(3): 34 (2001).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Excluded species

***Aloe swynnertonii* Rendle**

Neither this species nor any of the closely allied taxa are recorded from the northern half of Malawi or Tanzania (Carter 2001) and, since we have no confirmation of the identity of this record, it is excluded.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Kniphofia splendida* E.A.Bruce**

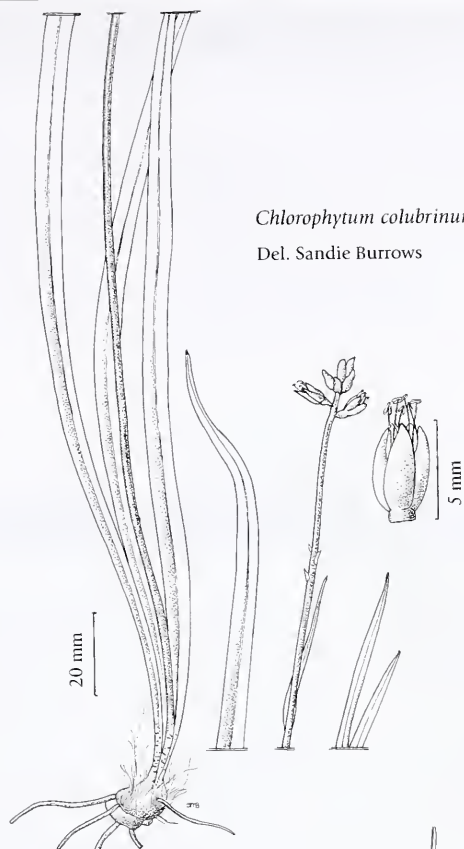
This species is recorded only from the S. of Malawi (Mt. Mulanje) and southwards to South Africa and, since we have no confirmation of the identity of this record, it is excluded.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

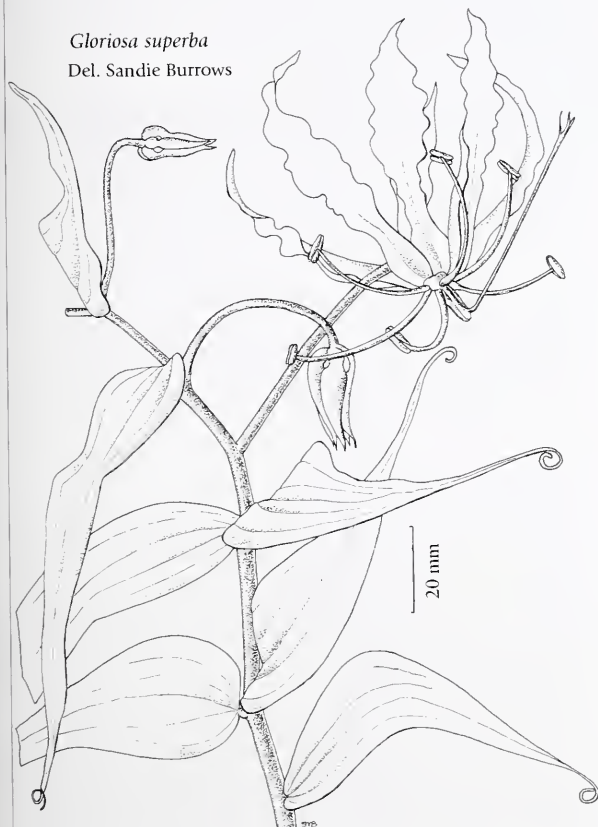
Trachyandra saltii
Del. Sandie Burrows



Chlorophytum colubrinum
Del. Sandie Burrows



Gloriosa superba
Del. Sandie Burrows



Littonia lindeni
Del. Sandie Burrows



Wurmbea tenuis
subsp. *goetzei*
Del. Sandie Burrows

Gloriosa superba L. ❖*Gloriosa simplex* L.

flame lily

Scrambling herb to 1.5 m, sometimes self-supporting, arising from a fleshy whitish tuber; leaves ovate to lanceolate, base clasping the stem, apex often elongating into a tendril; flowers unmistakable, the six petals recurved backwards to form a goblet shape, deep red and yellow, sometimes orange or yellow; fruit a fleshy capsule splitting to reveal red seeds; in miombo woodland, riverine forest or in high-rainfall scrub or forest margins; flowering mid-summer. Widespread in southern and eastern Africa.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Littonia lindeni Baker ❖

Erect herb or scrambling, arising from a tuber; leaves lanceolate, hairless; flowers pendulous on rather long stalks, bell-shaped with 6 pointed lobes,

deep orange; fruit a fleshy capsule; in miombo woodland. Zambia, Malawi, D.R.C., and Tanzania.

Source. Bolnick (1995: 63).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Wurmbea tenuis (Hook.f.) Baker subsp. **goetzei** (Engl.)

B.Nord. ❖

Small erect plant 30–200 mm tall; basal leaf erect, narrowly linear-filiform, 30–200 mm long, cauline leaves not extending beyond the flowers; flowers (perianth) 7–10 mm long, with spreading, star-like segments (petals), white to greenish or cream, tube 0.5–1.5 mm long; in wet short montane grassland on peaty or sandy soils; 1,200–2,300 m. Malawi, Tanzania, Zambia, and D.R.C.

Source. Nordenstam (1978: 225).

Malawi. Nyika National Park, Lake Kaulime, 1959, *Robinson 3043* (K, M, PRE).

COMMELINACEAE

Aneilema hirtum A.Rich. ❖*Aneilema ringoeti* De Wild.; *Aneilema whytei* C.B.Clarke

Annual; leaf-blade sessile; inflorescence dense; flowers 8–10 mm wide, stamens filaments beaded with maroon hairs. Malawi and Zambia to Tanzania, Ethiopia, and D.R.C.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Aneilema welwitschii C.B.Clarke*Aneilema densum* Th.Fr.; *Aneilema erectum* De Wild.; *Aneilema florentii* De Wild.

Roots tuberous; inflorescence dense; flowers yellow to orange, 9–14 mm wide; in savanna. Angola to Tanzania, Malawi, and Mozambique.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Commelina africana L. var. **africana**

Perennial herb, spreading, rooting at nodes; leaves flat, glabrous; spathes solitary; spathe margins free; flower yellow, opens only in mornings. Widespread in Africa.

Malawi. Nyika National Park, Chosi Viewpoint, 2000, *Smook 10735* (PRE, MAL).

Commelina africana L. var. **lancispatha** C.B.Clarke

Perennial herb, spreading, rooting at nodes; leaves folded, glabrous; spathes solitary; spathe margins free, apex tapered; flowers yellow, opens only in mornings. South Africa to Central Africa, uncommon in W. Africa.

Malawi. Nyika National Park, footpath to Chisanga Falls, 2000, *Smook 10766* (PRE).

Commelina africana L. var. **krebsiana** (Kunth) C.B.Clarke

Perennial herb, spreading, rooting at nodes; leaves folded, hairy; spathes solitary; spathe margins free, apex tapered; flowers yellow, opening only in mornings. South Africa to Central Africa.

Malawi. Nyika National Park, Fingira Rock, 2000, *Willis 225* (PRE).

Commelina aspera Benth.

Annual herb, erect; leaves narrow; spathes in clusters; spathe small, sharply pointed, reflexed, margins fused; flower yellow to white, open morning only; grassland and savanna, sometimes in disturbed areas. Angola, Namibia, Zambia, and Zimbabwe; E. Africa to Cameroon.

Malawi. Nyika National Park, footpath to Chisanga Falls, 2000, *Smook 10767* (PRE).

Commelina benghalensis L.

Annual, spreading herb; leaves flat; leaf-sheath with long red or rarely colourless setae at mouth; spathes clustered, spathe margins fused; flower small,

blue, rarely white; disturbed areas. Widespread and troublesome weed; southern Africa, tropical Africa, and Asia; naturalised in N. and S. America.

Malawi. Nyika National Park, without locality or details (Patel 1999).

Commelina bracteosa Hassk.*Commelina aspera* auct.

Perennial herb; erect to straggling or prostrate; spathes single to laxly clustered, on peduncles; spathe margins fused; flowers blue, rarely white. Malawi and Mozambique, up to E. Africa, Sudan, and Cameroon.

No country given. Nyika Plateau, 1967, *Richards 22692* (UZL).

Commelina ceciliae C.B.Clarke

Plant hairy; leaves broadly triangular, densely fringed with hairs; spathes with margins free, flowers numerous, large, blue. Zimbabwe and Malawi. **Malawi.** Nyika National Park, Makhanga, 2000, *Salubeni & Mwanyambo 6755* (MAL).

Commelina sp. aff. **C. grossa** C.B.Clarke

(description of *C. grossa*) Plant nearly glabrous; spathe margins free, spathes purple-green; flowers blue, cymes paired in spathe, upper cyme many-flowered.

Source. Determined by R.B. Faden (US)

Malawi. Nyika National Park, path to Chisanga Falls from road, 2000, *Willis 34* (PRE).

Commelina neurophylla C.B.Clarke ❖

Plant nearly glabrous; leaves often petiolate; spathe solitary, margins fused, longitudinal veins obscure; flowers blue. Malawi and Tanzania.

Malawi. Nyika National Park; Chelinda Dam, 2000, *Chapama 197* (FRIM); path to Chisanga Falls, 2000, *Smook 10766B* (PRE); Fingira Rock, 2000, *Willis 229* (PRE); Dembo Bridge, 2000, *Willis 24* (PRE).

Cyanotis barbata D.Don

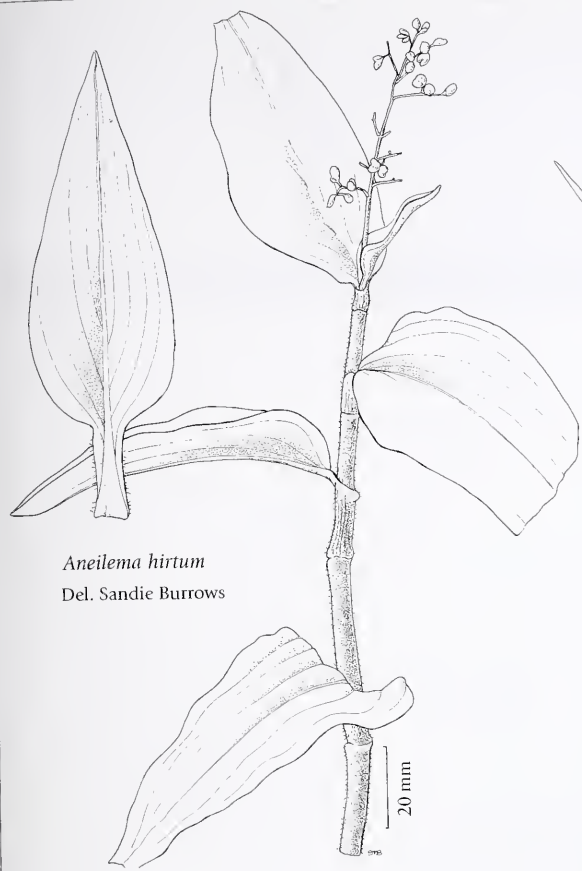
Perennial, variable, hairy herb, easily detached corm, roots fibrous; no rosette of leaves; flower blue, rarely mauve or white; grasslands of high altitudes. Malawi and Zambia to E. Africa, Ethiopia, Sudan, and W. Africa; also along the Himalayas from India to China.

Malawi. Nyika National Park; road at start of footpath to Chisanga Falls, 2000, *Smook 10771* (PRE, MAL); Dembo Bridge, 2000, *Willis 22* (PRE).

Cyanotis lanata Benth.*Cyanotis lanata* var. *rubescens* (A.Chev.) Schnell; *Cyanotis longifolia* sensu Berhaut, *Fl. Senegal* (1967: 351)

Annual or short-lived perennial herb, cotton-hairy, rarely glabrous, roots fibrous; flowers purple, pink or white with pink; in seasonally wet places on or near rocks, sometime in cultivated ground. S. and tropical Africa.

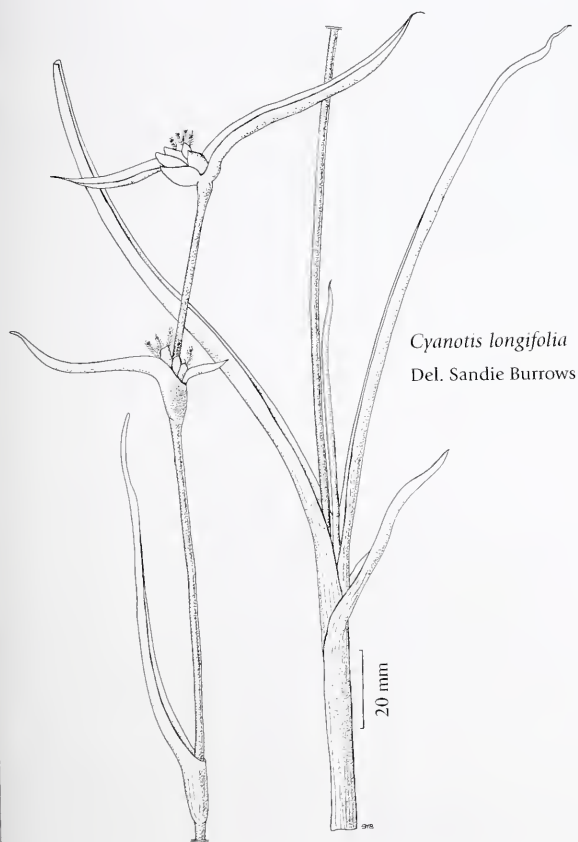
Malawi. Nyika National Park, without locality or collecting details (Patel 1999).



Aneilema hirtum
Del. Sandie Burrows



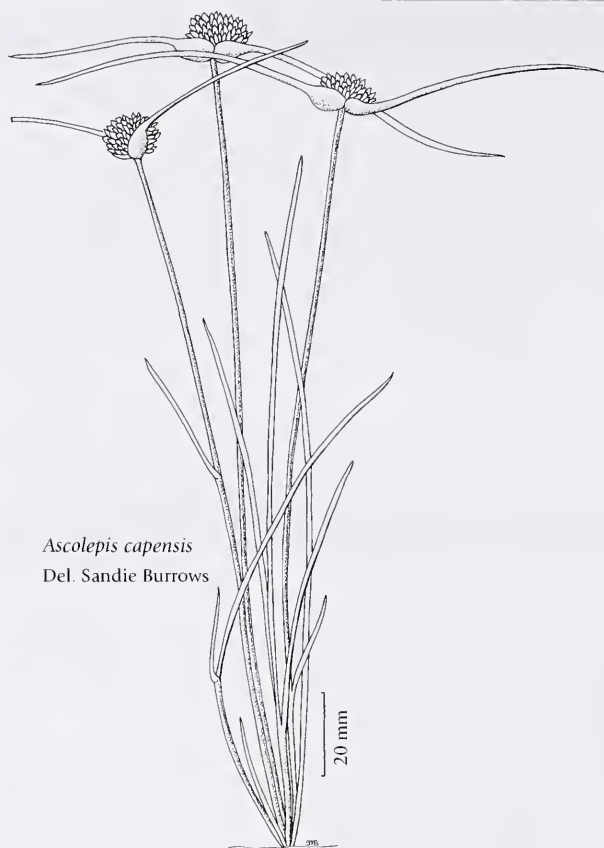
Commelina neurophylla
Del. Sandie Burrows



Cyanotis longifolia
Del. Sandie Burrows



Murdannia simplex
Del. Sandie Burrows



Asclepis capensis
Del. Sandie Burrows



Bulbostylis densa
subsp. *afromontana*
Del. Sandie Burrows



Carex spicato-paniculata
Del. Sandie Burrows



Coleochloa setifera
Del. Sandie Burrows

Cyanotis longifolia Benth. ✧

Perennial, variable herb, tuberously thickened roots; leaf rosette usually present; usually hairy; flowers blue, rarely pink or white; in savanna, miombo woodland or grassland. Tropical Africa and northern Namibia.

Malawi. Nyika National Park; path to Chisanga Falls, 2000, *Smook 10749* (PRE); Zungwara Road, 2000, *Burrows & Burrows 6879* (MAL, PRE, UZL).

Cyanotis speciosa (L.f.) Hassk.

Perennial herb, rhizome vertical to U-shaped, roots cylindrical; basal cluster of leaves present; flowers pale to deep blue or mauve; in grassland.

Southern Africa to Tanzania; also in Madagascar.

No country given. 1967, *Richards 22590* (UZL).

Murdannia simplex (Vahl) Brenan ✧

Commelina simplex Vahl

Perennial, robust, erect or sprawling herb; flowers light mauve to bluish, usually opening in the late afternoon; in woodland, wooded grassland, and dambos. South Africa, Mozambique, Zimbabwe, and widespread in tropical Africa.

Malawi. Nyika National Park; footpath to Chisanga Falls, 2000, *Smook 10765* (PRE); Runyina River Bridge, 2000, *Willis 201* (PRE).

CYPERACEAE

Ascolepis capensis (Kunth) Ridl. ✧

Slender perennial; sheaths becoming black and fibrous at base; inflorescence a very rounded somewhat compressed white head; in wet or seasonally wet grassland, in swamp-edges, and on tussocks in swamps; 1,000–1,800 m. Throughout tropical and southern Africa.

No country given. Nyika Plateau, 1967, *Richards 22623* (UZL).

Ascolepis protea Welw. var. **bellidiflora** Welw.

Tufted perennial; leaves less than half the length of culm; inflorescence white rarely pale yellow, hemispherical to subglobose; wet grassland and other damp places. Scattered in tropical Africa from Nigeria to Ethiopia and S. to Zimbabwe and Angola. The *A. protea* collected by the Overton Expedition (Patel 1999) is probably this variety.

Malawi. Chelinda Bridge, 2000, *Burrows & Burrows 6903* (MAL, PRE); 2.5 km from Thazima Gate, 2000, *Burrows & Maroyi 6815* (MAL, PRE).

Bulbostylis contexta (Nees) Bodard

Abildgaardia contexta (Nees) Lye; *Bulbostylis collina* (Kunth)

C.B.Clarke; *Bulbostylis zeyheri* (Boeck.) C.B.Clarke

Robust, tussocky perennial with a short woody rhizome; leaves tufted at base; inflorescence open or compact, especially in southern Africa; spikelet 5–8 mm long, glumes acute. Widespread in southern Africa as far N. as Angola and Kenya.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Bulbostylis densa (Wall.) Hand.-Mazz. subsp. **afromontana** (Lye) R.W.Haines ✧

Abildgaardia densa (Wall.) Lye subsp. *afromontana* Lye

Tufted annual; glabrous or with short spine-like hairs scattered along culms and leaves; culms deeply grooved; inflorescence usually an umbel with 3–8 spikelets; spikelet 2–5 mm long, glumes dark brown with conspicuous pale green or grey midrib; shallow soils in upland areas. Common in South Africa, less frequent in tropical Africa.

Malawi. Nyika National Park, between Dam #2 and Chelinda Hill, 2000, *Smook 10832* (PRE, MAL, UZL, SRGH, LMA); Sangula Kopje area, 2000, *Smook 10854* (PRE, MAL, UZL, SRGH, LMA); 2000, *Smook 10872* (PRE, MAL, UZL, SRGH, LMA); Chosi Hill, 2000, *Burrows & Burrows 6738* (MAL, PRE); Thazima Gate, 2000, *Burrows & Maroyi 6825* (MAL, PRE).

Bulbostylis filamentosa (Vahl) C.B.Clarke

Abildgaardia filamentosa (Vahl) Lye; *Fimbristylis filamentosa* (Vahl)

K.Schum.; *Bulbostylis metralis* Cherm.

Perennial with crowded culms from a short rhizome; leaves strongly scabrid; inflorescence a dense head 5–15 mm in diameter with individual spikelets hardly discernible; inflorescence bract often shorter than inflorescence, glume-like and with an excurrent mucro; spikelet 5–8 mm long; in temporarily wet places in grassland, swamps or rocky slopes. E. and W. Africa, occasional in southern Africa.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Bulbostylis macra (Ridl.) Lye

Bulbostylis macra (Ridl.) C.B.Clarke; *Bulbostylis zambesica* C.B.Clarke;

Fimbristylis macra Ridl.

Perennial, tufted, base swollen; leaves numerous almost filiform; inflores-

cence a solitary terminal, brown spikelet 6–13 mm long; in dryish woodlands. Widespread in tropical Africa.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Bulbostylis oligostachys (Hochst.) Lye

Annual tufted with numerous flowering culms; culms angular with deep ridges; inflorescence a congested umbel, glumes black, pubescent. In seasonally wet soils in ditches and on shallow soils on rocks. E. and Central Africa and Angola.

Malawi. Nyika National Park, between Dam #2 and Chelinda Hill, 2000, *Smook 10831* (PRE, MAL, UZL, SRGH, LMA).

Bulbostylis oritrephes (Ridl.) C.B.Clarke

Abildgaardia oritrephes (Ridl.) Lye; *Bulbostylis trichobasis* (Baker)

C.B.Clarke; *Bulbostylis caespitosa* Peter

Slender perennial with culms growing in rows from a horizontal rhizome, lowest part of culms thickened and bulb-like; inflorescence usually with 1–3 (10) spikelets; spikelet 4–8 mm long, glumes dark reddish brown; on bare ground, in open seasonally wet grassland or disturbed areas, in heavily trodden or grazed areas; 950–1,700 m. Common in southern Africa; also in tropical Africa.

Malawi. Nyika National Park, Nganda, 1972, *Synge 369* (K, MAL).

No country given. 1959, *Robinson 3073* (UZL).

Bulbostylis pilosa (Willd.) Cherm.

Abildgaardia pilosa (Willd.) Nees; *Fimbristylis africana* T.Durand. &

Schinz; *Fimbristylis aphyllanthoides* Ridl.

A densely tufted perennial, rhizome thick, woody and creeping, culms crowded; inflorescence a solitary terminal head of 3–10 clustered spikelets; spikelet 8–15 mm long, ovate, compressed below, glumes golden or reddish brown; in open grassland or savanna; sea-level to 1,200 m. Tropical Africa.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Bulbostylis pusilla (A.Rich.) C.B.Clarke

Annual, slender; capillary leaves; spikelets few, narrow, brown; moist grassy places, often on rock outcrops. Southern Africa, Central Africa, and Ethiopia; also in W. Africa and Chad.

Malawi. Nyika National Park, Juniper Forest area, 2000, *Smook 10922B* (MAL, PRE).

Bulbostylis scabricaulis Cherm.

Abildgaardia collina (Ridl.) Lye

Perennial, tufted with small clusters of bulb-like persistent culms, bases remaining attached to each other, the new ones arising within the broadened and hardened lower leaf-sheaths; inflorescence hemispherical with numerous spikelets; spikelets dark, culms scabrid hairy below inflorescence; in moist places. Southern Africa, eastern and W. Africa; also in Madagascar.

Malawi. Nyika National Park, circular drive to Dembo River Bridge, 2000, *Smook 10805* (PRE).

Bulbostylis sp.

Resembling a capitate form of *B. contexta*? (= *Abildgaardia contexta*).

Source. Brummitt (1973).

Malawi. Nyika National Park, Nganda, 1972, *Synge 368* (BR, EA, K, LISC, MAL, P, PRE, SRGH, UPS).

Carex aethiopica Schkur.

Perennial, tufted and leafy; leaves often red at base; inflorescence several erect spikes from upper nodes of culm, glumes reddish brown; along forest margins near watercourses. Occurring mainly in South Africa.

Malawi. Nyika National Park, Juniper Forest area, 2000, *Smook 10917* (PRE, MAL).

Carex brassii Nelmès

Perennial, tufted and leafy; inflorescence a slender panicle, glumes light brown; on stream banks in dense shade. Main known locality is Mt. Mulanje, Malawi. Closely related to *C. spicato-paniculata*.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Carex chlorosaccus C.B. Clarke

Carex echinochloe Kunze var. *chlorosaccus* (C.B. Clarke) Kük.

Perennial, tufted and leafy, rhizome woody; culms obtusely triquetrous; inflorescence a slender, much-branched panicle; spikelet 6–20 mm long; in moist forests and along paths and roads. Widespread, but mainly E. Africa to Ethiopia.

Malawi. Nyika National Park, Juniper Forest, 2000, *Smook 10904* (MAL, PRE).

Carex cognata Kunth var. **congolensis** (Turrill) Lye

Carex congolensis Turrill; *Carex pseudo-sphaerogyna* Nelmès

Perennial, tufted with small groups of culms arising together from short scaly stolons; inflorescence of 4–6 erect crowded spikes; in medium-altitude swamps. Zambia, Uganda, Rwanda, and D.R.C. Very close to var. *cognata*.

No country given. Nyika Plateau, 1967, *Richards 22474* (UZL).

Carex conferta Hochst. ex A. Rich. var. **lycurus** (K. Schum.) Lye

Carex lycurus K. Schum.

Perennial, robust, rhizome thick and creeping, roots pale; culm triangular; leaf 5–12 mm wide; inflorescence dense panicle; spikelet 5–10 mm long; upland swamps, along streams, and near lakes. N. Malawi, Tanzania, and Kenya; possibly also in Zimbabwe.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

No country given. 1967, *Richards 22455* (UZL).

Carex echinochloe Kunze

Perennial, tufted, leafy, rhizomatous; inflorescence a panicle; in open forest and woodland. Zimbabwe, Malawi, Tanzania, Kenya, and D.R.C.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Carex petitiiana A. Rich.

Carex fischeri K. Schum.; *Carex cuprea* (Kük.) Nelmès; *Carex*

ninagongensis (Kük.) Robyns & Tournay

Perennial, tufted or shortly creeping; culms bluntly triangular; inflorescence of 5–8 erect or drooping dense spikes, arising singly from leaf sheaths; in wet habitats along paths and streams. Ethiopia, E. Africa, Rwanda, and D.R.C. down to Zimbabwe; also in Nigeria and Cameroon.

No country given. 1959, *Robinson 3028* (UZL).

Carex spicato-paniculata C.B. Clarke ✧

Perennial, tufted, rhizome thick; culms triangular; inflorescence of 1–2 pyramidal panicles from each of the upper leaf sheaths; spikelet 5–10 mm long; open to dense forest. Ethiopia, S.E. tropical Africa, and South Africa.

Malawi. Nyika National Park, Thazima Gate, 2000, *Salubeni & Mwanyambo 6759* (MAL); Sangule Kopje area, 2000, *Smook 10855* (PRE, MAL, UZL, SRGH, LMA); Mbuzinandi, 2000, *Salubeni & Mwanyambo 6818* (MAL).

Coleochloa setifera (Ridley) Gilly ✧

Densely tufted perennial grass-like plant; leaves convolute-cylindrical, 0.5–2.5 mm wide when flattened, upper surface glabrous, lower surface hairy;

inflorescence a lax panicle of 1–3 fascicles of spikes, spikelets 2–3 mm long; forming dense clumps on bare rock surfaces, often very common. Widespread in eastern tropical Africa from South Africa to Kenya; also in Madagascar.

Malawi. Nyika National Park, Fingira Rock, 2000, *Winter 4211* (PRE).

Courtoisina cyperoides (Roxb.) Soják ✧

Courtoisina cyperoides (Roxb.) Nees

Tufted annual, has a 'fenugreek' odour; inflorescence with many almost spherical spikes; spikelets 3.8–4.2 mm long, glumes yellowish grey with a green, strongly winged midrib; in seasonally wet grassland and temporary pools. Southern Africa, Mozambique, Angola, Zimbabwe, Zambia, and Tanzania.

Malawi. Nyika National Park, 2.5 km from Thazima Gate, 2000, *Burrows & Maroyi 6816* (MAL, PRE).

Cyperus alopecuroides Rottb.

Juncellus alopecuroides (Rottb.) C.B. Clarke

Robust perennial; culms triangular; basal leaves crowded; inflorescence umbel-like with 1–many clusters of spikes; spikelet 2.5–8.0 mm long; in swamps and other wet areas, usually in standing water. Widespread in southern and tropical Africa; also in Madagascar, India, and Australia.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Cyperus amabilis Vahl

Annual, slender to robust; culms solitary or crowded; leaf-sheaths short, reddish brown to purple; inflorescence orange-brown; in seasonally wet habitats, often in sandy soils near roads, lakes, and swamps. Widespread in tropical and South Africa; also in Madagascar, India, and S. America.

Malawi. Nyika National Park, Chosi Hill, 2000, *Burrows & Burrows 6739* (MAL, PRE).

Cyperus angolensis Boeck. ●

Tall perennial, stoloniferous with solitary culms from swollen culm-bases; inflorescence globose, dirty white; dry grassland with scrub and scattered trees, often in places where burning is frequent. Common in tropical Africa, less frequent in southern Africa.

Source. Brummitt (1973).

Malawi. Nyika National Park, plateau above upper Mondwe Valley, 1972, *Synge 396* (K, MAL).

Cyperus denudatus L.f. var. **lucenti-nigricans** (K. Schum.) Kük.

Perennial; culms sharply triangular to almost winged; inflorescence more usually tightly congested; spikelets blackish; in upland swamps and wet grasslands. Widespread in tropical Africa.

Malawi. Nyika National Park, near Juniper Forest, 2000, *Smook 10913* (PRE, MAL, UZL, SRGH, LMA).

Cyperus distans L.f.

Tufted perennial, rhizome short, thick; culms in a row or solitary; basal parts covered with leaf-sheaths; inflorescence compound umbel-like, at the base enclosed by a greenish to purplish tubular prophyll ending in two teeth or short blades; spikelet 7–20 mm long; wetland grasslands, stream-sides, edges of pools and ditches, roadside banks, and in cultivation. Tropical and South Africa, Madagascar, Asia, Philippines, and Australia.

Malawi. Nyika National Park, Dembo bridge, 2000, *Thera 3024* (MAL).

Cyperus esculentus L. var. **esculentus**

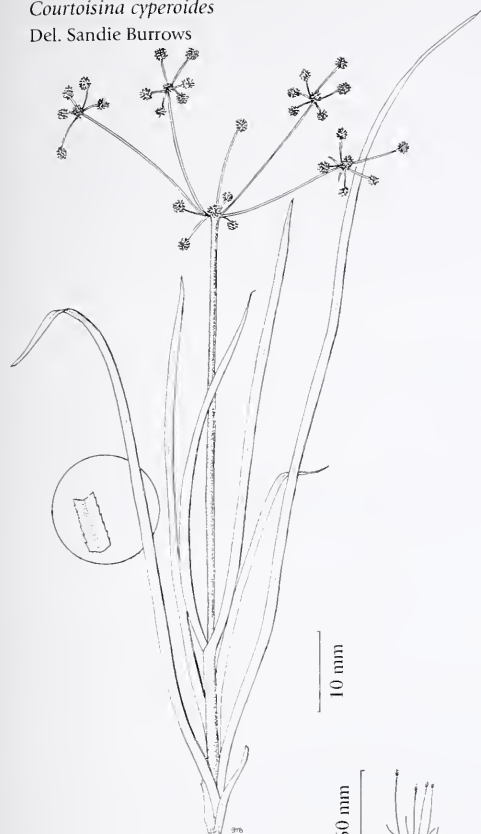
Perennial, robust, stoloniferous with root tubers; inflorescence of one sessile and 3–10 stalked spikes; spikelets 5–20 mm long, obtuse, brown or rust coloured; in seasonally wet grassland and swamps; also a weed of cultivation. Cosmopolitan, but in warmer areas.

Malawi. Nyika National Park, Thazima Gate, 2000, *Burrows & Maroyi 6819* (MAL, PRE).

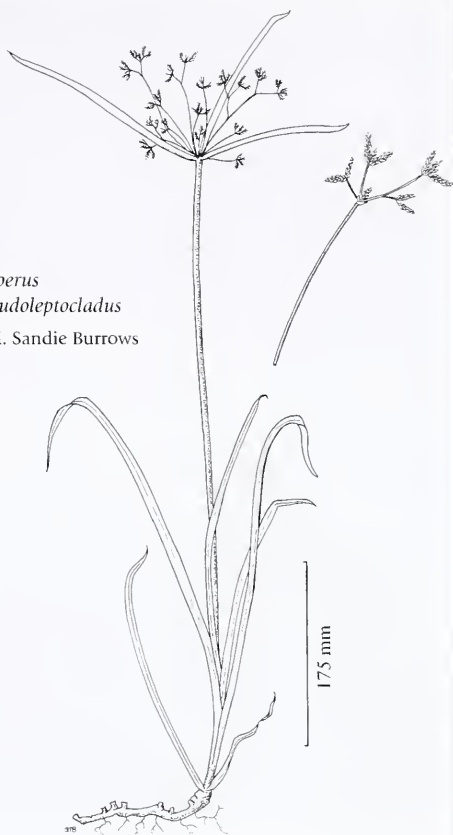
Cyperus exaltatus Retz.

?*Cyperus immensus* C.B. Clarke var. *taylorii* C.B. Clarke

Courtoisina cyperoides
Del. Sandie Burrows



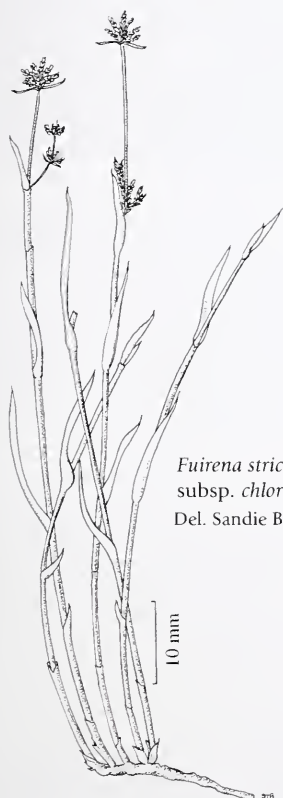
Cyperus pseudoleptocladus
Del. Sandie Burrows



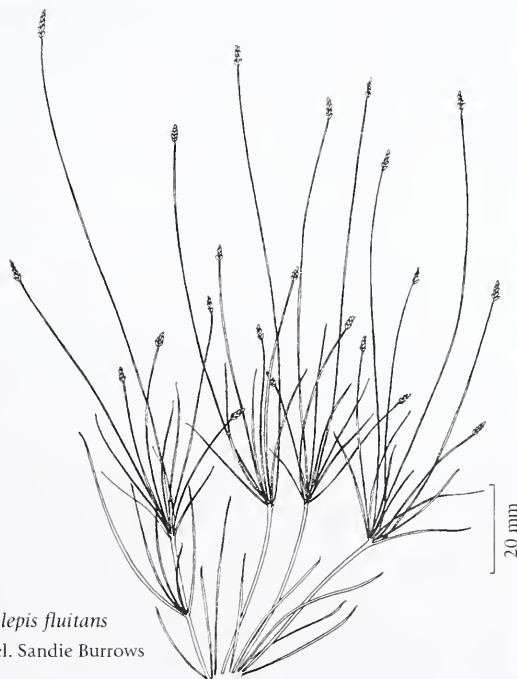
Eleocharis brainii
Del. Sandie Burrows



Fuirena stricta
subsp. *chlorocarpa*
Del. Sandie Burrows



Isolepis fluitans
Del. Sandie Burrows



Robust perennial, rhizome short, thick and woody, breaking up into fibres; leaves crowded, with cutting edges; inflorescence open; spikelet 6–12 mm long, compressed, brown; in swamps and open water. E. Africa.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Cyperus involucratus* Rottb.**

Cyperus flabelliformis Rottb. *nom. illeg.*; *Cyperus alternifolius* L. subsp. *flabelliformis* (Rottb.) Kük.

Robust perennial, rhizome thick, woody and creeping; several culms placed in a straight row, culms rounded with longitudinal ridges, leaf blade very reduced so appearing leafless; inflorescence with numerous large involucre bracts; spikelet 2–10 mm long, compressed; in swamps, wet grassland, and stream banks. Common in tropical Africa; also in South Africa (KwaZulu-Natal), and in Madagascar. Widely cultivated as an ornamental.

Source. Brummitt (1973).

Malawi. Nyika National Park, Sawi Valley, 1972, *Synge* 457 (K, MAL).

***Cyperus keniensis* Kük.**

Mariscus keniensis (Kük.) S.S.Hooper; *Cyperus distans* L.f. var. *niger* C.B.Clark

Tufted, robust perennial, rhizome short, thick; culms in a row or solitary; basal parts covered with leaf-sheaths; inflorescence compound, umbel-like, at the base enclosed by a greenish to purplish tubular prophyll ending in two teeth or short blades; spikelet 7–20 mm long, dark chestnut or black; in wet grasslands, streambanks, edges of pools and ditches, roadside banks, and in cultivation; frequently associated with *Pinus* plantations. Zimbabwe, Zambia, Angola, Tanzania, Uganda, Burundi, and southern Africa, where it is possibly introduced.

Malawi. Nyika National Park, Dam #1, Chelinda Camp, 2000, *Burrows & Burrows* 6860 (MAL, PRE); Dembo River bridge, 2000, *Smook* 10788 (PRE); pond between Chelinda Camp and Chelinda Hill, 2000, *Smook* 10836 (PRE, MAL, UZL, SRGH, LMA); Mpopoti Peak, 2000, *Willis & Luhanga* 101 (LMA, MAL, PRE, SRGH, UZL).

Cyperus margaritaceus* Vahl var. *margaritaceus

Robust perennial, base swollen and bulb-like, covered by hardened reddish brown or blackish leaf sheaths; inflorescence a solitary congested head of 2–8 spikelets; spikelet 8–25 mm long; in open woodland or grassland, often on sandy soils. Widespread in tropical and southern Africa.

No country given. Nyika Plateau, 1961, *Fitzgerald* 2976 (UZL).

***Cyperus nduru* Cherm.**

Robust perennial, base of culm swollen and flask-shaped; leaves few and short; inflorescence a solitary congested head of 2–4 spikelets; in recently burnt grassland and open woodland. Common in tropical Africa.

Malawi. Nyika National Park, Jalawe View Point, 2000, *Smook* 10881 (PRE, MAL, UZL, SRGH, LMA).

***Cyperus niveus* Retz var. *leucocephalus* (Kunth) Fosberg**

Cyperus obtusiflorus Vahl var. *obtusiflorus*

Perennial, culm bases swollen and fused into a horizontal rhizome; roots slender; culms crowded and often growing in a straight line; inflorescence a solitary usually globose head of 5–50 spikelets, white when young turning pale reddish brown; in dry grassland, savanna, rocky slopes, and on shallow soil over rocks. Rare in tropical Africa, common in southern Africa; also on the Indian Ocean islands. A taxonomically difficult complex.

Malawi. Nyika National Park, between Dam #2 and Chelinda Hill, 2000, *Smook* 10844 (PRE, MAL, UZL, SRGH, LMA).

***Cyperus pseudoleptocladus* Kük. ✧**

Perennial, robust, with short woody rhizome; culm scabrid at least below the inflorescence; inflorescence open, involucre bracts leafy; spikelet 4–8 mm long, reddish brown; in open parts of forest and woodland, also on banks of roadsides in forest. South Africa, Malawi, Tanzania, Kenya, and Uganda. This is the first record for Nyika.

Malawi. Nyika National Park, Mwanda Mountain, 2000, *Willis* 175 (PRE).

Cyperus rupestris* Kunth var. *rupestris

Perennial, mat-forming; inflorescence a solitary head of numerous dark

red to blackish spikelets; in shallow soils. Rare in tropical Africa, common in southern Africa.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Cyperus tenax* Boeck.**

Perennial, densely tufted, rhizome erect; covered by old leaf-bases; lower part of culms with numerous crowded leaves; inflorescence open, rarely with one sessile head only; spikelet 3–15 mm long, dark brown to blackish; in dry sandy grassland and savanna. Widespread and common in tropical and southern Africa.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Cyperus tomaiophyllus* K.Schum.**

Mariscus tomaiophyllus (K.Schum.) C.B.Clark

Robust perennial, rhizome branching, woody, up to 20 mm thick, with scales; inflorescence 60–150 mm wide with 6–12 spikes on long peduncles; spikelets numerous, 6–10 mm long, glumes pale and margins uncoloured; in wet habitats in mountains. Widespread in tropical Africa, E. Africa, and Cameroon, but not in Zimbabwe, Zambia, or Mozambique.

Malawi. Nyika National Park, stream below Lake Kaulime, 2000, *Burrows & Burrows* 6867 (MAL, PRE).

***Eleocharis brainii* Svenson ✧**

Dwarf annual, tufted; roots and culms short and slender; leaf blades very reduced, appearing leafless; spikelet minute, 1–2 mm long. Also occurring in Zimbabwe.

No country given. Nyika Plateau, 1967, *Richards* 22749 (UZL).

***Firena pubescens* (Poir.) Kunth**

Perennial, rhizome long and creeping; culms triangular with obscure longitudinal ridges; inflorescence of several pedunculate clusters of spikelets; inflorescence bracts leafy; mature spikelet 6–8 mm long, in swamps and seasonally wet grassland, on lake edges, and river-banks. Common and widespread in tropical and southern Africa.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Firena stricta* Steud.**

Perennial, loosely tufted, rhizome short, creeping; inflorescence of several clusters of spikelets, each cluster of 2–8 spikelets; spikelet 4–8 mm long, angular; in bogs and edges of swamps and lakes. Southern and eastern Africa.

Source. Brummitt (1973).

Malawi. Nyika National Park, Sawi Valley, 1972, *Synge* 459 (K, MAL).

***Firena stricta* Steud. subsp. *chlorocarpa* Lye ✧**

Perennial, rhizome creeping; inflorescence of several clusters of spikelets; spikelet terete; in damp ground. Tropical Africa and South Africa.

Malawi. Nyika National Park, Dam #2, 2000, *Smook* 10824 (PRE, MAL, UZL, SRGH); forest patch near Sangule Kopje, 2000, *Smook* 10865 (PRE, MAL, UZL, SRGH); near Juniper Forest, 2000, *Smook* 10914 (PRE, MAL, UZL, SRGH, LMA).

***Firena welwitschii* Ridl.**

Firena pubescens (Poir.) Kunth var. *buchananii* (Boeck.) C.B.Clark

Slender perennial, rhizome long, creeping, culms usually arising at intervals, occasionally crowded, triangular; leaves usually short and stiff; inflorescence of few or many spikelets in 1–several clusters, supported by narrow green leafy bracts; spikelet up to 25 mm long; in seasonally wet or flooded grassland. Malawi, Zimbabwe, and E. Africa.

Malawi. Nyika National Park, near Juniper Forest, 2000, *Smook* 10912 (PRE, MAL).

***Isolepis fluitans* (L.) R.Br. ✧**

Low-growing, carpet-forming perennial with creeping much-branched culms, often rooting at nodes, scales becoming fibrous; inflorescence a solitary pedunculated spikelet, terminal on lateral shoots and with additional

spikelets from leaf axils; in bogs at high altitudes and other wet places, sometimes an emergent aquatic. Widespread, mainly in the tropics of the Old World.

Malawi. Nyika National Park, Dam #2, 2000, *Smook 10827* (PRE, MAL, UZL, SRGH).

Kyllinga alba Nees ❖

Cyperus cristatus (Kunth) Mattf. & Kük. var. *exalatus* Merxm.

Robust perennial, densely tufted, rhizome short; culm sharply triangular; inflorescence a single globose or shortly ovate white head fading to pale dirty brown; spikelet 4.0–6.5 mm long; on rocky mountain slopes and roadsides. Tanzania southwards to southern Africa.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Kyllinga tenuifolia Steud.

Kyllinga triceps Rottb.; *Cyperus triceps* Endl.; *Cyperus tenuifolius* (Steud.) Dandy

Perennial, rhizome absent; base of culms swollen and bulb-like, bulbs persisting; culms angular; leaves often with dark purple spots or stripes; inflorescence pale green to greyish white head with few distinct spikes; spikelet 2.0–2.5 mm long; along stream-sides. Zambia, Malawi, and E. Africa; also in India and the Americas.

Malawi. Nyika National Park, near Sangule Kopje, 2000, *Smook 10852* (PRE, MAL, UZL, SRGH, LMA).

No country given. 1959, *Robinson 3085* (UZL).

Kyllingiella microcephala (Steud.) Haines & Lye ❖

Perennial, densely tufted, leafy; culm bases swollen and bulb-like, leaf-sheaths persistent, often splitting into fibres; inflorescence a dense terminal head, whitish, but drying greyish or very pale reddish brown; on damp soils on open rocks with seepage. Widespread, but scattered; South Africa to Angola and E. Africa to Ethiopia; also in India.

Malawi. Nyika National Park, Thazima Gate, 2000, *Burrows & Maroyi 6818* (MAL, PRE).

Lipocarpa comosa J.Raynal ❖

Perennial, with stolons; culms obscurely triangular; inflorescence a single whitish spherical head of numerous crowded spikelets, with very long whitish involucre bracts; in seasonally wet grassland, miombo woodland. Malawi, Zambia, Tanzania, and D.R.C.

Malawi. Nyika National Park, without locality, 1978, *Pawek 13784* (herbarium not recorded); Thazima Gate, 2000, *Burrows & Burrows 6823* (MAL, PRE).

Mariscus cylindristachyus Steud.

Mariscus umbellatus auctt., non Vahl; *Mariscus alternifolius* auctt.; *Cyperus subumbellatus* Kük.

Perennial, with a short horizontal rhizome; culm bases slightly swollen; culms triangular; inflorescence surrounded by numerous leaf-like bracts, a short, dense spike, golden yellow when young, brown when mature; a weed of cultivated land, in seasonally burnt grassland or in open parts of forests. Widespread in tropical Africa, rare in southern Africa.

No country given. Nyika Plateau, 1959, *Robinson 3100* (UZL).

Mariscus deciduus (Boeck.) C.B.Clarke

Cyperus deciduus Boeck.

Slender perennial, rhizome woody, roots brown or purplish; culms triangular; inflorescence usually open; spikelet 3–10 mm long, green to brown, usually disarticulating entirely when mature; in wet grassland. Tropical and southern Africa.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Mariscus dubius (Rottb.) Kük. ex C.E.C.Fisch. subsp. **dubius**

Cyperus dubius Rottb.; *Cyperus kyllingioides* Vahl

Variable, tussocky perennial with many crowded culms and leaves; culms triangular, bases succulent, lower leaf sheaths occasionally splitting into fibres; inflorescence a solitary, greenish white or dirty white congested head;

spikelet 2–5 mm long. Widespread in tropical and southern Africa.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Mariscus foliosus? C.B.Clarke

Cyperus luteus Boeck.; *Cyperus chermezonianus* Robyns & Tournay;

Cyperus foliosus K.Schum., non Willd. ex Kunth

Robust perennial, rhizome short, creeping; culm bases swollen; leaves at base; inflorescence surrounded by numerous leaf-like bracts, a congested group of spikes with or without additional stalked spikes; spikelet 10–15 mm long, falling off entirely when mature; in wet grassland and a weed of cultivation. Possibly E. Africa and Madagascar.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Mariscus longibracteatus Cherm.

Cyperus distans L.f. subsp. *longibracteatus* (Cherm.) Lye

Tufted perennial; short thick rhizome; basal part covered with leaf-sheaths; inflorescence compound, umbel-like with very long involucre bracts up to 250 mm long; spikelet greenish; in wet grasslands, on stream-banks, edges of pools, and roadsides. Malawi, E. Africa, and W. Africa; also in Madagascar.

Malawi. Nyika National Park, Mpopoti, 2000, *Mwanyambo 552* (MAL).

Mariscus rubrotinctus Cherm.

Cyperus distans L.f. var. *rubrotinctus* (Cherm.) Lye; *Cyperus bojeri*

C.B.Clarke ex T.Durand & Schinz, nom. nud.

Robust perennial, tufted, rhizome short, thick, culms usually set in a row or solitary, triangular; inflorescence compound umbel-like; spikelet 7–20 mm long, reddish; in wet grassland, on stream-banks, edges of pools and ditches, roadside banks, and in cultivation. E. Africa.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Mariscus sumatrensis (Retz.) J.Raynal ❖

Robust perennial, rhizome very short, woody, green; culm bases swollen; inflorescence umbel-like with short spikes with numerous, crowded, small spikelets; spikelet 2.5–6.0 mm long; a weed of cultivation, along footpaths in forests, rarely in grassland and savanna. Widespread in Old World.

Malawi. Nyika National Park, Sangule Kopje area, 2000, *Smook 10853* (PRE, MAL, UZL).

Pycrus aethiops (Welw. ex Ridl.) C.B.Clarke

Cyperus aethiops Welw. ex Ridl.; *Cyperus aethiops* Welw. ex Ridl. var.

tessmannii Kük.; *Cyperus aethiops* Welw. ex Ridl. var. *aberdarensis*

(Kük.) Kük.; *Cyperus aberdarensis* Kük.

Robust perennial, roots numerous; culm bases slightly swollen, blackish; inflorescence open or contracted with dense globose or elongated spikes; spikelet 6–12 mm long, brown to blackish. Widespread in tropical Africa; also in Botswana.

Source. Brummitt (1973).

Malawi. Nyika National Park, W. of Nganda, 1972, *Synge 470* (MAL, SRGH, EA, K).

Pycrus melas (Ridl.) C.B.Clarke ❖

Pycrus ater (C.B.Clarke) Cherm.; *Cyperus melas* Ridl.

Slender annual, root system minute; leaves shorter than culms; inflorescence a cluster of 4–8 sessile spikelets or with additional stalked clusters; spikelet 5–15 mm long, dark brown to blackish; in seepage areas. Tropical Africa.

Malawi. Nyika National Park, Sangule Kopje, 2000, *Smook 10870* (PRE, MAL); between Chelinda Hill and Kasaramba Road, 2000, *Smook 10893* (PRE, MAL); Chelinda Dam, 2000, *Chapama 196* (MAL).

Pycrus niger (Ruiz & Pav.) Cufod. subsp. **elegantulus** (Steud.) Lye

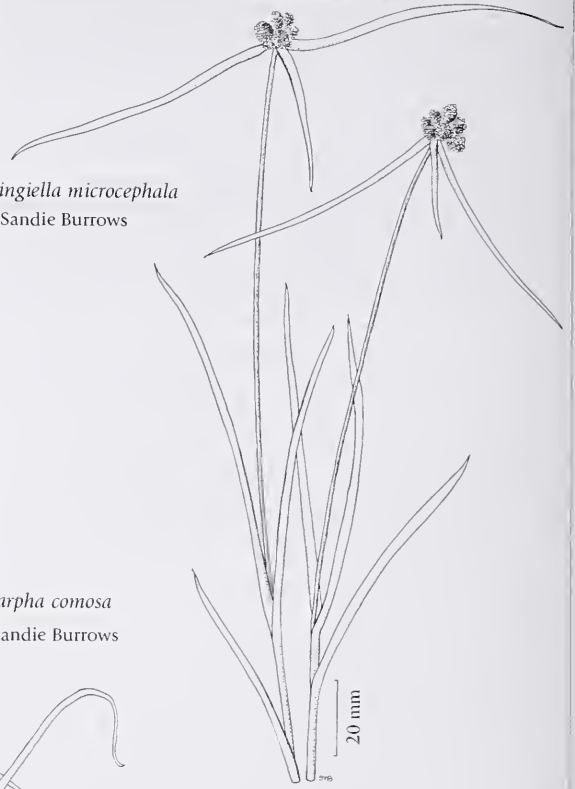
Cyperus niger Ruiz & Pav. subsp. *elegantulus*

Stoloniferous perennial that may appear annual if stolons are not present, tufted, slender stolons sometimes rooting at nodes; culm bases not swollen;

Kyllinga alba
Del. Sandie
Burrows



Kyllingiella microcephala
Del. Sandie Burrows



Lipocarpha comosa
Del. Sandie Burrows



Pycreus melas
Del. Sandie Burrows



Mariscus sumatrensis
Del. Sandie Burrows

inflorescence a single compact head or with additional stalked lateral clusters; spikelet 2–5 mm long; in wet grassland, in swamps, and along streams. Widespread in tropical and southern Africa.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999); Dembo River Bridge, 2000, *Smook 10787* (PRE); Chelinda Dam #1, 2000, *Burrows & Burrows 6952* (MAL, PRE).

Rhynchospora brownii Roem. & Schult. ❖

Rhynchospora rugosa sensu Napper; *Rhynchospora glauca* Vahl

Slender perennial, rhizome short, tufted, leafy; culms triangular with shallow longitudinal grooves and minute spines on some ridges; inflorescence a slender panicle; spikelet 4–5 mm long; in bogs, swamps, and on streamsides. Scattered in tropical Africa, more common in South Africa and Madagascar.

Malawi. Nyika Plateau, without precise locality, 1959, *Robinson 3038* (UZL).

No country given. 1959, *Robinson 3006* (UZL).

Schoenoplectus brachyceras (A.Rich.) Lye ❖

Stout, tough perennial, rhizome short, thick and woody, leafless; culms often dense and numerous, rounded with indistinct longitudinal ridges; inflorescence simple or compound with clusters of spikelets on unequal branches; spikelet 3–8 mm long, often dark brown; mainly in upland areas in bogs and along streams, often forming dense green clumps conspicuous at a distance. Infrequent in tropical Africa, common in southern Africa.

Malawi. Nyika National Park, Dembo River Bridge, 2000, *Smook 10786* (PRE).

Schoenoxiphium lehmannii (Nees) Steud. ❖

Slender perennial, base slightly swollen and covered by fibrous remains of old leaf bases, roots stiff; inflorescence scanty; in open places in upland forests. Widely distributed in eastern Africa from Ethiopia to South Africa.

Malawi. Nyika National Park, Juniper Forest, 2000, *Smook 10905* (PRE, MAL).

Scleria bulbifera Hochst. ex A.Rich. var. **bulbifera** ❖

Scleria bulbifera var. *schweinfurthiana* (Boeck) Piérart; *Scleria buchananii* Boeck; *Scleria atosanguinea* Hochst. ex Steud.

Perennial, rhizome creeping, stolons present, culm base woody, thickened into bulb-like swellings; culms crowded or distant, triangular; inflorescence a lax crowded 'spike'; in seasonally wet grassland and miombo woodland, often in shallow soils over rock. Widely distributed throughout tropical Africa and South Africa; also in Madagascar.

Malawi. Nyika National Park, Chisanga Falls, 2000, *Kasakula 214* (MAL); Chisanga Falls, 2000, *Burrows & Burrows 6758* (MAL, PRE); Thazima Gate, 2000, *Burrows & Maroyi 6817* (MAL, PRE).

No country given. 1961, *Robinson 4501* (UZL).

Scleria delicatula Nelmel

Scleria spondylogona Nelmel

Slender annual; inflorescence spicate, 1–8 spikelets per glomerule; spikelet 2.5–4.5 mm long; in seasonally damp shallow soils on rock outcrops, often in seepage areas or pools. Malawi, Zambia, and Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Scleria dieterlenii Turill

Perennial, rhizome brittle with a fleshy tuber; inflorescence spicate or rarely with branches in lower part; spikelet 4–5 mm long; in seasonally wet grassland or any waterlogged ground. South Africa to Angola, W. Africa, and Tanzania; very common in the summer rainfall areas of southern Africa.

Malawi. Nyika National Park, between Dam #2 and Chelinda Hill, 2000, *Smook 10830* (PRE, MAL, UZL, SRGH, LMA).

Scleria dregeana Kunth

Scleria meyeriana Kunth; *Scleria holcoides* Kunth; *Scleria caespitosa* Welw. ex Ridl.

Perennial, rhizome short, creeping or absent; inflorescence spicate or sparsely to strongly branched; spikelet 4–6 mm long; in wet grassland, swamps, and damp river-banks. South Africa, Zimbabwe, Zambia, Angola, and

Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Scleria erythrorrhiza Ridl.

Perennial, rhizome woody; leaves hairy; inflorescence spicate, rarely with single stalked glomerule, spikelet 4–6 mm long; in seasonally wet grassland and more permanent swamps. Zambia, Angola, Tanzania, and D.R.C.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Scleria longispiculata Nelmel

Robust perennial, rhizome woody, long and creeping, culms at intervals; leaves hairy; inflorescence spicate; spikelet 8–9 mm long; in well-drained sandy soils near waterlogged grassland in *Brachystegia* woodland. Zambia, Namibia, and Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Scleria melanomphala Kunth

Scleria macrantha Boeck.; *Scleria centralis* Cherm.; *Scleria longigluma* Kük.

Robust perennial, rhizome with very short internodes, young shoots often crowded around base; inflorescence of one terminal and 5–9 often pendulous panicles, panicles narrow and dark. Widespread throughout tropical Africa and South Africa; also in Madagascar and S. America.

Source. Brummitt (1973).

Malawi. Nyika National Park, near lower Mondwe River, 1972, *Brummitt & Syngé* 232 (K); Vitiñhiza Hill slopes, 2000, *Salubeni & Mwanyambo 6810* (MAL).

Scleria nyasensis C.B. Clarke

Perennial, rhizome short, roots purple; culms densely crowded, with minute retrorse prickles; inflorescence of panicles; in wet part of swamps, often clambering through other vegetation. Zimbabwe, Malawi, Zambia, Tanzania, Uganda, Burundi, and D.R.C.

No country given. Nyika Plateau, 1959, *Robinson 3031* (UZL).

Scleria poaeoides Ridl.

Scleria multispiculata Boeck; *Scleria prophyllata* Nelmel

Slender perennial, rhizome short, creeping, tufted; inflorescence compound with many slender compound branches; spikelet 3–4 mm long. Widespread in tropical Africa; also in Madagascar.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Scleria pulchella Ridl.

Small annual, tufted; inflorescence short and either unbranched or shortly branched; spikelet 2–4 mm long; in river-beds, seepage areas or seasonally swampy places. Malawi, Zambia, Angola, Tanzania, and D.R.C.

Malawi. Nyika National Park, Sangule Hill, 2000, *Smook 10871* (PRE, MAL, UZL, SRGH); Zungwara Road, 2000, *Burrows & Burrows 6878* (PRE); Chelinda Dam #1, 2000, *Burrows & Burrows 6951* (MAL, PRE).

No country given. Nyika Plateau, 1961, *Robinson 4527* (UZL).

Scleria racemosa Poir.

Scleria ciliolata Boeck; *Scleria palmifolia* Hoffmans

Robust perennial, rhizome scaly, branched; leaves plicate; inflorescence confined to upper part of plant of one terminal and 3–9 lateral panicles; in swamp forest near rivulets, in damp ground and usually in partial shade, culms often growing through branches of bushes. Zambia, Malawi, Zimbabwe, Mozambique, Angola, Kenya, Tanzania, Sudan, and D.R.C.; also in Madagascar

Malawi. Nyika National Park, Juniper Forest, 2000, *Chikuni 521* (MAL); without locality or collecting details (Patel 1999).

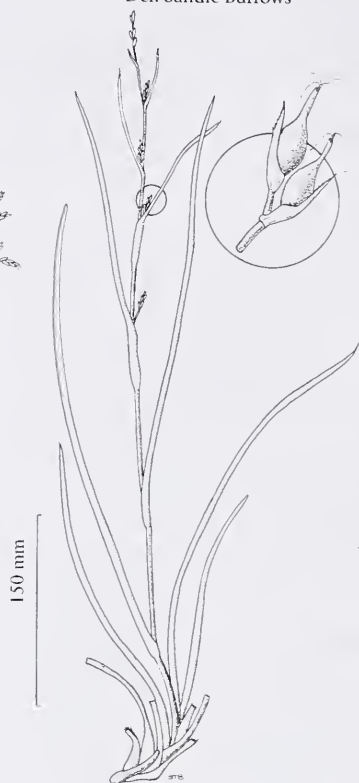
Scleria richardsiae E.A. Rob.

Perennial, rhizome a knotty mass of culm bases; leaves sparsely hairy; inflorescence simply branched; spikelet 3.5–5.0 mm long; in perennially wet

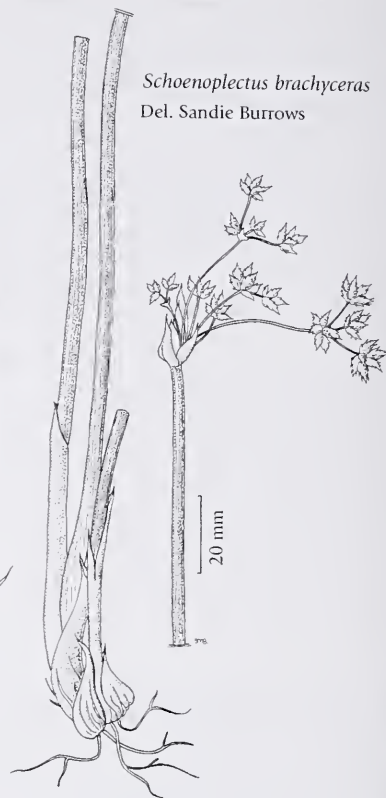
Rhynchospora brownii
Del. Sandie Burrows



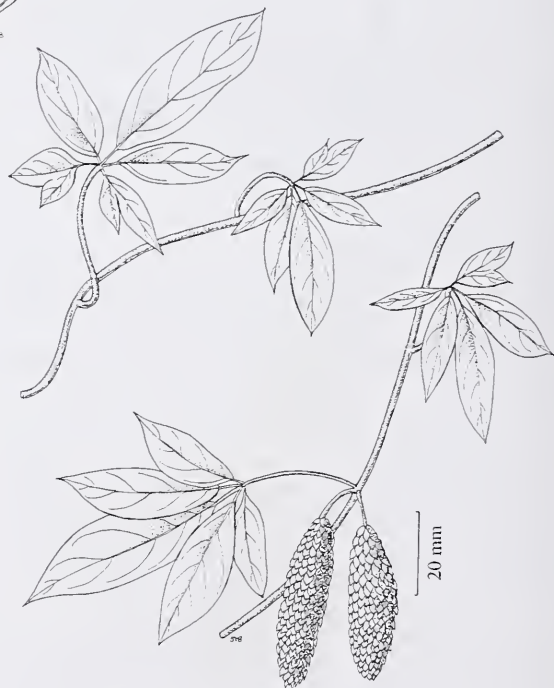
Schoenoxiphium lehmannii
Del. Sandie Burrows



Schoenoplectus brachyceras
Del. Sandie Burrows



Scleria bulbifera
Del. Sandie Burrows



Dioscorea quartiniana
Del. Sandie Burrows

places in thick grassy vegetation, often along mountain streams. Tanzania, Zambia, and Malawi.

Malawi. Nyika National Park, Dembo River Bridge, 2000, *Smook 10780* (PRE, MAL, UZL, SRGH, LMA).

***Scleria welwitschii* C.B. Clarke**

Scleria junciformis Welw. ex Ridl.

Slender perennial, rhizome woody, long, creeping; culms weakly erect; inflorescence simply branched with slender branches; in swamps or seasonally wet grassland. South Africa, Zimbabwe, Zambia, Angola, and Tanzania.

No country given. 1959, *Robinson 3027* (UZL).

***Scleria woodii* C.B. Clarke**

Scleria striatonux (*striatinux*) De Wild.; *Scleria rehmannii* C.B. Clarke var. *ornata* Cherm.

Slender perennial, rhizome long, slender, fleshy, and brittle, horizontally spreading; inflorescence a lax panicle; spikelet 4–5 mm long; in marshy ground or seasonally wet grassland. Widely distributed throughout tropical Africa and South Africa.

Malawi. Nyika National Park, near Sangule Kopje, 2000, *Smook 10862* (PRE, MAL).

No country given. 1959, *Robinson 3088* (UZL).

Excluded species

***Cyperus aureolatus* Lye**

A reference to this name could not be traced.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

DIOSCOREACEAE

***Dioscorea dumetorum* (Kunth) Pax**

Dioscorea triphylla Schimp. ex Kunth, non A. Rich.

bitter yam, three-leaved yam

Tuber solitary and deeply lobed, or main tuber plus several smaller ones, stems left-twining, set with sharp prickles; leaves alternate, 3-foliate, terminal leaflet broadly elliptic, rounded, apiculate to acuminate; capsule 3-lobed, 31–53 × 15–25 mm; in riverine forest, forest margins, termite mounds, and rocky areas; 500–1,400 m. Zimbabwe northwards throughout tropical Africa to Senegal and Ethiopia. Tubers occasionally used as a ‘famine-food’ after washing and drying to remove the toxins.

Source. Wilkin (2001: 385).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Dioscorea quartiniana* A. Rich. ❖**

Tubers several in a cluster near the soil surface, stems left-twining, without prickles, small bulbils sometimes present in the leaf axils; leaves alternate, digitate with 3–7(9) lobes; capsule 3-lobed 15–34 × 9–18 mm; in forest, forest margins, and grasslands; 0–2,000 m. Throughout tropical Africa; also in Madagascar. This species is not recorded from Malawi (N.) in Wilkin (2001).

Source. Wilkin (2001: 394).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999); Manchewe Falls (White *et al.* 2001: 97).

DRACAENACEAE

***Dracaena afromontana* Mildbr.**

Dracaena reflexa Lam. var. *nitens*

Sparsely-branched shrub or tree 2–7 m tall, or scandent to 8 m; leaves narrowly lanceolate, 120–350 × 15–22 mm, base gradually narrowing, but abruptly amplexicaul, apex acute; flowers 13–15 mm long, white or cream, in panicles 200–600 mm long; fruit round, orange, 15–18 mm diameter; in montane rainforest; 1,900–2,400 m. Malawi northwards through eastern Africa to Sudan and Ethiopia.

Source. Beentje (1993: 639); White *et al.* (2001: 98).

Malawi. Nyika Plateau, 1946, *Brass 17272* (White *et al.* 2001); eastern escarpment forests (Dowsett-Lemaire 1985: 354).

Mozambique, Malawi northwards to Kenya and Nigeria. A decoction of the roots is used in Kenya to treat venereal diseases.

Source. Beentje (1993: 640); White *et al.* (2001: 99).

Malawi. Nyika National Park, Kasyaula and Zovochipolo Forests (Dowsett-Lemaire 1985: 317); Zovochipolo Forest, 2000, *Burrows & Burrows 6897* (PRE).

Zambia. Nyika National Park, Manyenjere, Kasoma, and Chowo Forests (Dowsett-Lemaire 1985: 317).

***Dracaena laxissima* Engl. ❖**

Dracaena elegans Hua

Sparsely-branched scandent shrub to 8 m high; leaves evenly distributed, elliptic, 80–80 × 25–60 mm, base tapering to rounded, apex acuminate, petiole forming a stem-clasping sheath; flowers white, in panicles 150–300 mm long, flowers 4–10 mm long; fruit round or lobed, red-orange, 6–9 mm diameter; in montane and mid-altitude rainforest; 1,600–2,450 m.

***Dracaena steudneri* Engl.**

Dracaena papau Engl.

Tree 8–18 m tall, sparsely branched, branches ascending ending in a large cluster of leaves; inner leaves stiffly erect, outer ones drooping, up to 1 m long, narrowly lanceolate, characteristically longitudinally-pleated, dark green; flowers cream to yellow-green, in panicles 0.3–1.0 m long, flowers 11–13 mm long; fruit red, orange or yellow, round, 12–14 mm diameter; a pioneer species in evergreen forest; 1,000–2,100 m. Zimbabwe and Mozambique northwards to Ethiopia and Sudan.

Source. Beentje (1993: 639); White *et al.* (2001: 101).

Zambia. Nyika Plateau, Manyenjere Forest (Dowsett-Lemaire 1985: 316).

ERIOCAULACEAE

***Eriocaulon buchananii* Ruhland ❖**

Slender tufted annual herb; leaves in a small basal rosette, broadly linear, 10–30 × 1–3 mm, flowering stalks up to 50, 4- to 5-ribbed, 70–200 mm long, flowering head roundish to ovoid, 4–5 mm wide, anthers black; seeds reddish brown, transversely white papillose-striate; in shallow water of pans, boggy grassland or seasonally-flooded grassland, ca 1,000 m. Zimbabwe, Malawi, Zambia, Angola, Burundi, and Tanzania. This collection is dubious; it is generally a species of lower altitudes and Phillips (1998) quotes nothing from the Nyika nor any modern (20th century) collections from Malawi.

Source. Phillips (1998: 46).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Eriocaulon mesanthemoides* Ruhland**

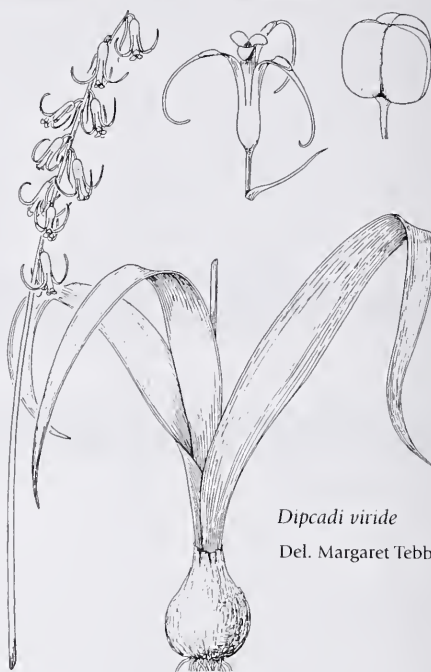
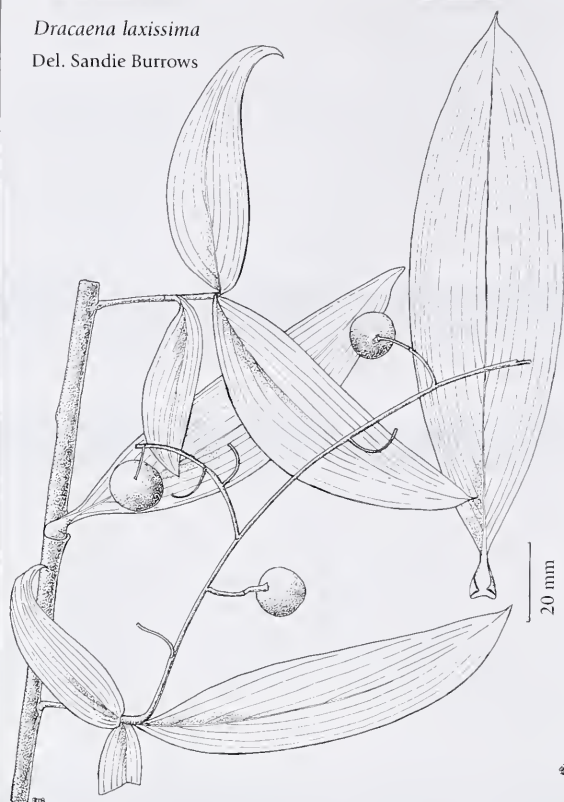
Robust tufted perennial herb; leaves narrowly lanceolate, 70–300 × 6–10 mm, tip obtuse; flowering stalks 1–5, stout, 8- to 9-ribbed, 100–600 mm high; flowering heads roundish, 12–19 mm diameter, white speckled black, anthers black; seeds mid-brown; in montane grassland, on swampy ground, and wet streamsides. Malawi (Nyika only), Tanzania, and Kenya. *E. mesanthemoides* appears to be almost restricted to the Ulugurus in Tanzania and the Aberdares in Kenya, with an outlying population on the Nyika Plateau. Very similar to *E. schimperii*.

Source. Phillips (1998: 32).

Malawi. N. end of Nyika Plateau, W. foot of Nganda, 2,350 m, 1972, *Brummitt, Munthali & Syngé WC54* (K, SRGH).

Dracaena laxissima

Del. Sandie Burrows

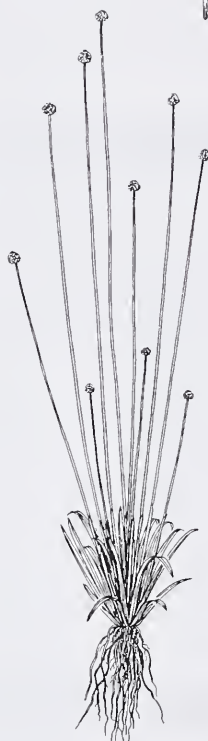


Dipcadi viride

Del. Margaret Tebbs

Albuca abyssinica

Del. Sandie Burrows

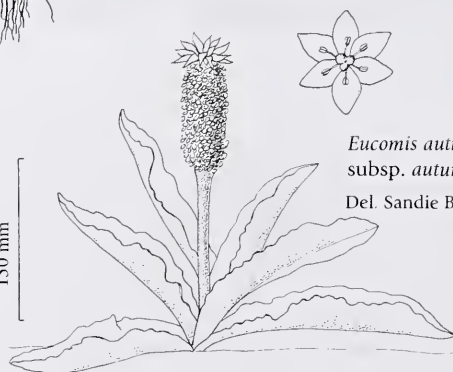


Eriocaulon buchananii

Del. Margaret Tebbs



150 mm



Eucomis autumnalis
subsp. *autumnalis*

Del. Sandie Burrows

Eriocaulon mutatum N.E.Br. var. **mutatum**

Small rosulate annual herb; leaves awl-shaped to filiform, 13–50 x 2–10 mm; flowering stalks 10–50, 2- to 4-ribbed, 30–150 mm long, flowering head roundish to dome-shaped, 1.5–3(4) mm wide, anthers black; seeds uniformly brown; on shallow margins and muddy edges of drying pools, and in seepage areas over rocks, at 1,300–2,000 m, Zimbabwe, Zambia, Malawi, S. Tanzania, D.R.C., and Angola.

Source. Phillips (1998: 23).

Malawi. Nyika Plateau, ca 14 km down Nthalire Road, 1973, *Pawek 6998* (K).

Eriocaulon pictum Fritsch

Eriocaulon amphibium Rendle

Perennial herb forming clusters of leaf rosettes; leaves lanceolate, 40–100 x 3–5 mm, thick and spongy, woolly in the axils with long matted hairs, tip hard, acute; flowering stalks single or a few, 6- to 8-ribbed, 250–650 mm high, flowering heads roundish, 8–12 mm wide, grey, turning white, anthers black; seeds brown with short projections; in seasonal pools and on swampy ground, often in peat bogs in association with *E. teusczii*, 1,500–

2,200 m. Zimbabwe, Zambia, Malawi, Angola, and southern Tanzania

Source. Phillips (1998: 23).

Malawi. Nyika Plateau, Lake Kaulime, 1958, *Robson 293* (K, SRGH).

Eriocaulon schimperii Koern ex Ruhland

Robust tufted perennial from a short rootstock; leaves broadly linear, thick, slightly glossy, 60–250 x 4–14 mm, tip broadly rounded; flowering stalks 2–5, stout, 8- to 10-ribbed, 150–350 mm long, flowering head rounded to slightly flattened, 2.5–4 mm wide, anthers black, seeds brown; in wet montane grassland and marshy streamsides, at 2,200–2,500 m. Malawi (Nyika only), D.R.C., Uganda, Tanzania, Kenya, Ethiopia, and Sudan. This species is primarily E. African, reaching its southernmost point on the Nyika Plateau where it may be abundant, especially around Lake Kaulime. The population on the Nyika Plateau has pure white flower heads with pale involucre bracts and densely white-hairy floral bracts.

Source. Phillips (1998: 23).

No country given. 1967, *Richards 22425* (UZL).

Malawi. Nyika Plateau, Lake Kaulime, 1958, *Robson 273* (K); Chelinda River bridge, 1976, *Pawek 11798* (K, SRGH).

Excluded species

Eriocaulon teusczii Engl. & Ruhland ex Ruhland

Almost certainly confused for *E. pictum*, which it closely resembles (see

also Phillips 1998: 28).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

HYACINTHACEAE

Albuca abyssinica Murray ❖

Albuca melleri (Baker) Baker; *Albuca angolensis* Welw. ex Baker

Bulbous plants 0.1–1.5 m tall, bulb to 80 mm diameter; leaves lanceolate, to 1 m x 50 mm, ciliate or hairy; flowers in a lax raceme of 5–110 flowers, pedicels 2–20 mm long, flowers nodding, cream to yellow with a green midrib; in grassland or open woodland; 0–2,000 m. Malawi to Angola and northwards to Ethiopia and Arabia.

Source. *F.T.E.A.* Hyacinthaceae: 22 (1996).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Chosi Hill, 2000, *Burrows & Burrows 6746* (MAL, PRE).

Albuca kirkii (Baker) Brenan

Albuca pachychlarnys auctt., sensu Agnew, Cribb & Leedal, non Baker;

Albuca nyikensis Baker

Bulbous plants to 1.5 m tall, usually much smaller; leaves appearing with or after the flowers, up to 550 x 6–15 mm, narrowly lanceolate, glabrous; flowers in a raceme of 4–40 flowers, pedicels 15–100 mm long, flowers held erect, white to cream with a green midline; in grassland, scrub or wooded grassland; 1,000–2,700 m. Mozambique and Zimbabwe to Zambia, Angola, D.R.C., Tanzania, and Kenya.

Source. Brummitt (1972); *F.T.E.A.* Hyacinthaceae: 21 (1996).

Malawi. Nyika National Park, N.E. foot of Nganda, 1972, *Brummitt & Syngae 120* (K); Vitiniza Hill slope, 2000, *Mwanyambo 574* (MAL).

Dipcadi viride (L.) Moench ❖

Plants 150–600 mm tall (sometimes more), bulb 10–50 mm diameter; leaves 1–15, filiform to linear, 1–10 mm wide; flowers in a raceme of 4–20 flowers, flowers yellow-green to brownish, lobes slender, markedly reflexed; fruit a capsule 5–11 mm long; in montane grassland, or wooded grassland, often in shallow soils over rocks; 100–2,380 m. Widespread in southern and tropical Africa.

Source. *F.T.E.A.* Hyacinthaceae: 3 (1996).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Drimia elata Jacq. ex Willd. ❖

Drimia zombensis Baker

Bulbous plant 0.3–1 m tall, flowering before the leaves appear; leaves linear, ca 300 x 7 mm; inflorescence a raceme of 10–40 flowers per 100 mm

length, whitish, tinged brownish purple; fruit an ovoid-ellipsoid capsule ca 10 mm long; in grassland; 1,250–2,500 m. South Africa to Angola, Zambia, Tanzania, and Kenya.

Source. *F.T.E.A.* Hyacinthaceae: 17 (1996).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Eucomis autumnalis (Miller) Chitt. subsp. **autumnalis** ❖

Eucomis undulata Aiton

pineapple lily

Bulbous plant to 500 mm tall; leaves in a rosette, linear to ovate, 150–550 x 60–130 mm, more or less hairless, margins undulate; inflorescence robust with a thick stalk, densely set with greenish white flowers up to 20 mm long; in montane grassland, often among rocks, and on forest margins. South Africa to Malawi.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Ledebouria revoluta (L.f.) Jessop ❖

Scilla indica (Wight) Bak. non Roxb.; *Scilla hyacinthina* (Roth.)

J.F.Macbr.

Bulbous plant to 200 mm tall, bulbs 25–75 mm long; leaves 4–8, appressed to the ground, ovate to lanceolate, often with purple spots or irregular blotches; inflorescence suberect, flowers mauve-purple, sometimes greenish; fruit a roundish capsule; in rocky grassland or woodland; 125–2,700 m. South Africa northwards through much of tropical Africa.

Source. *F.T.E.A.* Hyacinthaceae: 15 (1996).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Scilla nervosa (Burch.) Jessop ❖

Scilla rigidifolia Baker

Plants robust, up to 500 mm tall, bulb 80 mm diameter; leaves lanceolate, up to 380 x 35 mm, glabrous; inflorescence a raceme of many small white to pinkish flowers; fruit a capsule 4 x 6 mm; in montane grassland, often among rocks; 900–2,570 m. South Africa to Angola, Zambia, and Tanzania.

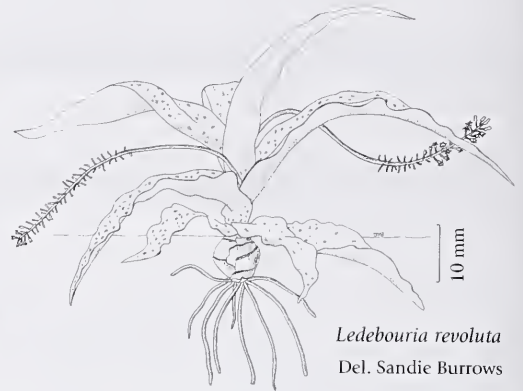
Source. *F.T.E.A.* Hyacinthaceae: 10 (1996).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Drimia elata
Del. Sandie Burrows

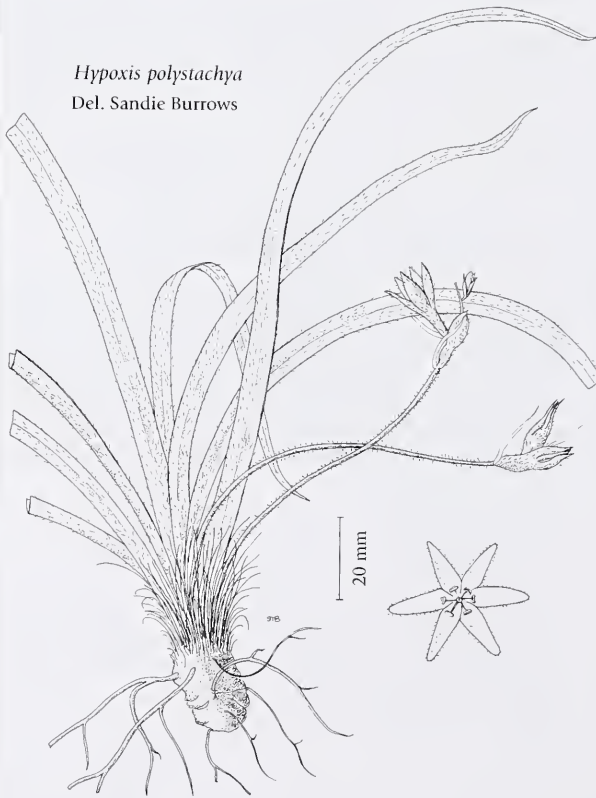


Scilla nervosa
Del. Margaret Tebbs



Ledebouria revoluta
Del. Sandie Burrows

Hypoxis polystachya
Del. Sandie Burrows



Aristea woodii
Del. Sandie Burrows



Excluded species

Urginea nyasae Rendle

We have no reference to a current use of this name. Described from Mt. Mulanje in southern Malawi (Rendle 1894), it would seem to be endemic to that mountain or nearly so (Binns 1968). We have therefore excluded it

pending the appearance of the Hyacinthaceae treatment for *Flora zambesiaca*.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

HYPOXIDACEAE

Hypoxis filiformis Baker

Hypoxis dregei (Baker) Nel: *Hypoxis malosana* Baker

Slender erect perennial herb; leaves linear to terete, 50–450 × 1–3.5 mm, hairy or not; flowers appearing before the leaves, yellow; capsule 2–3 mm long; in swampy grassland, dambos, and montane grassland; 0–2,440 m. South Africa to Angola, D.R.C., Tanzania, and Uganda.

Source. Brummitt (1972); Zimudzi (1996: 16); *Flora zambesiaca* 12(3): 10 (2001).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); plateau above Mondwe Valley, 1972, *Synge* 392 (K, MAL, SRGH).

Zambia. Nyika Plateau, close to Rest House, 1956, *Benson* 144 (K); 1972, *Fanshawe* 7248 (UZL); ca 3 km S.W. of Rest House, 1958, *Robson & Angus* 210 (K, LISC).

Hypoxis goetzei Harms

Robust perennial herb to ca 350 mm tall; leaves arching when mature, 400–550 × 20–80 mm when mature, hairless except for golden brown hairs along the margins and on the midrib below; flowers produced before the leaves, 22–35 mm diameter, yellow; capsule 5.3–9 × 3–5 mm, crowned with the persistent perianth; montane grassland, dambos, high-rainfall miombo woodland, usually in stony, sandy soils; 850–2,185 m. Zimbabwe to D.R.C. and Kenya.

Source. *Flora zambesiaca* 12(3): 8 (2001); Zimudzi (1996: 14).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Zambia. Nyika Plateau, 4 km S.W. of Rest House, 1958, *Robson & Angus* 235 (K, LISC, UZL).

Hypoxis nyasica Baker

Hypoxis villosa sensu Zimudzi (1997), pro parte

Slender perennial herb 150–650 mm tall; leaves erect to straggling or prostrate, linear, grass-like, overlapping and sheathing at the base, to 670 mm long, 3–10 mm wide, thinly hairy, becoming more or less glabrous; inflorescence shorter than the leaves, flowers yellow; in montane grassland, often near streams, in miombo woodland, dambo margins, and on rocky hillsides; 100–2,350 m. Zimbabwe, Mozambique, Malawi, Zambia, and Tanzania.

Source. Zimudzi (1996: 14); *Flora zambesiaca* 12(3): 16 (2001).

Malawi. Nyika National Park, Kasaramba Viewpoint, 1982, *Brummitt, Polhill & Banda* 16163 (K, MAL); without locality or collecting details (Mill 1979).

Hypoxis polystachya Welw. ex Baker ✧

Hypoxis villosa complex sensu Zimudzi (1997), pro parte

Robust perennial herb to 0.75 m tall, with a developed pseudostem to 200 mm long; leaves linear, stiffly erect, becoming lax, to 750 mm long, 5–20 mm wide, variously hairy, sparser above; inflorescence appearing with, and shorter than, the leaves, yellow; capsule 4–8 mm long; in montane grassland and high-rainfall miombo woodland; 900–2,150 m. Malawi, Mozambique, Zambia, Tanzania, and Kenya.

Source. *Flora zambesiaca* 12(3): 14 (2001).

Malawi. Nyika National Park, near Chelinda Bridge turn-off on Chelinda-Kasaramba Road, 2000, *Burrows & Burrows* 6948 (MAL, PRE).

Zambia. Nyika Plateau, ca 9 km S.W. of Government Rest House, 1958, *Robson & Angus* 341 (K, LISC).

IRIDACEAE

Aristea angolensis (N.E.Br.) Weim.

Aristea zombensis Baker

Plants 250–900 mm high; leaves several, mostly basal, about half as long as the stem, 2.5–7 mm wide, linear to narrowly lanceolate, stem 2- to 6-branched, more or less elliptic in section, not winged, branches short, slender, erect; flowering clusters 4–14, with 4–6 flowers per cluster, flowers sessile, blue, petals 12 × 4–5 mm; in wet sites, in seepage areas, dambos, or shallow marshes, flowering November–February. South Africa to Angola, Cameroon, Nigeria, and Ethiopia.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Aristea nyikensis Baker

Plants 200–300 mm high; leaves 5–8, lower 3–5 basal, linear, 4–6 mm wide, rigid, two thirds as long as the stem, stem simple or 1- to 2-branched, slightly compressed, flowers in clusters of 2–4, sessile, deep blue, petals obovate, 10 × 6 mm; usually in seasonally moist localities, rock pools, and streamsides; flowering November–February. Malawi, Zambia, D.R.C., and S. Tanzania.

Source. *Flora zambesiaca* 12(4): 5 (1993).

Malawi. Nyika Plateau, 1896, *Whyte* 230 (K, holo.).

Aristea woodii N.E.Br. ✧

Aristea gracilis N.E.Br.; *Aristea affinis* N.E.Br.; *Aristea torulosa* var. *monostachya* Baker

Plants 200–700 mm tall; leaves 6–10, mostly basal, ca half as long as the stem, linear to falcate, stem slightly compressed, simple or with 1–2 short branches, with 3–8 flowering clusters, with 2–4 flowers per cluster, flowers sessile deep blue, petals obovate, 10–14 × 5–7 mm; in wet habitats, either

in dambos or along streams in submontane grassland. The Eastern Cape of South Africa northwards through Zimbabwe to Zambia and Malawi. Nyika represents the northernmost occurrence of this species.

Source. *Flora zambesiaca* 12(4): 5 (1993).

Malawi. Nyika Plateau, Dam #2, 1975, *Phillips* 342 (MO).

Crocossia aurea (Pappe ex Hook.) Planch. subsp. *aurea* ✧

Plants 0.6–1 m tall; leaves several, flat, thinly textured, stem strongly arched above, 3- to 4-branched, inflorescence a 7- to 12-flowered spike, flowers bright orange, actinomorphic, the petals curved backwards, the style and stamens prominently exserted; capsule 12–15 mm diameter, orange-red on inside, seeds black; in moist situations in montane scrub, on forest margins, flowering January–May. South Africa, Mozambique, Zimbabwe, Zambia, Malawi, Tanzania, and D.R.C.

Source. *Flora zambesiaca* 12(4): 50 (1993).

Malawi. Nyika National Park, Mbuzinandi, 2000, *Salubeni & Mwanyambo* 6823 (MAL); without locality, 2000, *Willis* 36 (MAL, PRE); edge of Juniper Forest, 1981, *Salubeni & Tawakali* 3053 (MAL, MO, P, SRGH).

Zambia. Nyika National Park, W. of Chowo Forest, 2000, *Phiri* 3959 (UZL).

Dierama longistylum Marais ✧●

Plant of 1–3 stems; leaves several, 250–700 × 2.5–6 mm, flowering stems 0.5–1.2 m long, peduncles (flowering stalks) slender, hair-like, arching, 55–165 mm long, each 2- to 5-flowered, flowers pale to deep mauve-pink, 22–32 mm long, pendulous; in montane grassland, flowering mainly in September–January, but flowers seen in April; 1,600–2,400 m. Zambia, Malawi, and Tanzania. The specimen *Willis et al.* 205 was identified at PRE as *D. densiflorum* Marais, but Hilliard & Burtt (1991) state that they have seen no records of *D. densiflorum* from Nyika (although a number from

the Viphyra) and we have therefore included the Willis *et al.* record here.
Source. Hilliard & Burt (1991: 66); *Flora zambesiaca* 12(4): 44 (1993).

Malawi. Nyika Plateau, near Chelinda CDC Camp, 2,200 m, 1958, Robson & Angus 371 (K, PRE, SRGH); Mbuzinande area, 2000, Willis, Winter & Patel 205 (MAL, PRE); Nyika Plateau, ca 6 km S. of Nganda Hill, 1955, Lees 86 (BR, K).

***Gladiolus dalenii* van Geel subsp. *dalenii* ●**

Gladiolus psittacinus Hook.f.

Large plant 0.7–1.2 m tall; leaves on the flowering stem, large, 10–20 mm wide, hairless; inflorescence with 3–10 flowers, bracts 40–70 mm long, flowers large, 60–80 mm long, red to orange, usually with red to brown streaks on the upper petals, upper petal strongly hooded; in montane grassland, moist woodlands or wooded grassland. Widespread in Africa, from the Eastern Cape to Senegal to Ethiopia and Arabia. Very variable if Goldblatt's concept of the species is accepted.

Source. Goldblatt (1996: 212).

Malawi. Nyika National Park, Nthakati Peak, 2000, Willis, Patel & Luhanga 150 (MAL, PRE); road to Kasaramba View, 1969, Pawek 2123 (K).

Zambia. Nyika National Park, Rest House area, 2000, Phiri 3730 (UZL).

***Gladiolus dalenii* van Geel subsp. *andongensis* (Baker) Goldblatt**

Gladiolus goetzei Harms

As for subsp. *dalenii*, but with the flowering stem lacking foliage leaves, which appear separately. Fairly widespread in tropical Africa, from Zimbabwe and Mozambique to Angola, Senegal, and Ethiopia.

Source. Goldblatt (1996: 140).

Malawi. Nyika National Park, near Lake Kaulime, 1974, Pawek 7901 (MO, P); without locality or collecting details (Patel 1999).

***Gladiolus erectiflorus* Baker**

Gladiolus nyikensis Baker; *Gladiolus venulosus* Baker

Plants 0.6–0.9 m high; leaves 5–6, 2–5 mm wide, the lowest leaf reaching the spike, the upper 3 sheathing the stem and overlapping; inflorescence of 4–8 flowers, bracts 20–30 mm long, flowers cream to pale pink or purple, conspicuously streaked red or purple, lower 3 petals with a yellowish mark; in miombo woodland on rocky sites in hilly country. Malawi, N. Mozambique, Tanzania, Zambia, and D.R.C.

Source. Goldblatt (1996: 194).

Malawi. Nyika National Park, without locality, 1896, Whyte s.n. (K); without locality or collecting details (Patel 1999); Chisanga Falls, 2000, Chapama 153 (MAL).

***Gladiolus gregarius* Welw. ex Baker**

Gladiolus hanningtonii Baker

Clump-forming plant 0.3–0.8 m high; leaves 4–7, 9–16 mm wide, hairless, margins and midrib hardly thickened, basal leaves fan-shaped; inflorescence with 8–20 flowers, bracts long, overlapping, 20–30 × 8–10 mm, flowers light to dark purple, rarely dark red-brown fading to cream in the throat, lower petals with a dark purple diamond-shaped mark; in open woodland, in rocky areas, sometimes on dambo margins. Widespread throughout tropical Africa north of the Zambezi River.

Source. Goldblatt (1996: 140).

Malawi. Nyika National Park, path to Chisanga Falls, 2000, Willis 4 (MAL, PRE, UZL); 2000, Izidine 22 (LMA); without locality or collecting details (Mill 1979).

***Gladiolus intonsus* Goldblatt**

Plants 0.5–0.75 m tall; leaves 6–8, the upper ones cauline and progressively smaller, 7–12 mm wide, usually densely pubescent along the veins and margins; inflorescence 9- to 14-flowered, flowers white to cream or pink to light purple, the lower 3 petals with a broad yellow streak; in escarpment and high-rainfall miombo woodlands, flowering mainly March–April. Malawi, N. Zambia, D.R.C., and Tanzania.

Source. Goldblatt (1996: 104).

Malawi. Nyika Plateau, 15 km N. of M1, 1,830 m, 1978, Pawek 14066 (MAL, holo., BR, K, MO, PRE, SRGH, iso.); 40 km S. of Thazima Gate, 1,600 m, 1987, la Croix 995 (MO).

***Gladiolus laxiflorus* Baker**

Gladiolus tritonioides Baker

Plants 0.4–0.7 m tall; leaves 3–6, linear, 4–6 mm wide, thinly hairy; inflorescence 6- to 9-flowered, bracts small, 10–15 mm long, flowers large, pink to purple, without markings or lower petals with a yellow mark; in wet sites such as marshes, dambos, and stream banks; flowering in October and November. Angola, Zambia, D.R.C., Tanzania, and N. Malawi.

Source. *Flora zambesiaca* 12(4): 75 (1993); Goldblatt (1996: 115).

Malawi. Nyika Plateau, boggy grassland at Chelinda Bridge, 2,300 m, 1986, la Croix 855 (K, MAL, MO).

***Gladiolus melleri* Baker ✧**

Gladiolus natalensis (Eckl.) Reinw. ex Hook. var. *melleri* (Baker)

Geerinck; *Gladiolus dalenii* van Geel var. *melleri* (Baker) Cordova;

Gladiolus brachyandrus Baker; *Gladiolus jobnstonii* Baker

Plants 250–500 mm high; leaves sheathing the flowering stem, with a single leaf produced on a separate stem after flowering; inflorescence of 5–10 flowers, bracts 20–30 mm long, flushed reddish, flowers orange-red to salmon, without markings; common on margins of dambos and in poorly drained savannas, flowering at the end of the dry season, from August to November. Zimbabwe, Zambia, Angola, D.R.C. (Shaba), Malawi, Mozambique, and Tanzania. Flowering is stimulated by fire.

Source. *Flora zambesiaca* 12(4): 97 (1993); Goldblatt (1996: 242).

Malawi. Nyika Plateau, ca 20 km S. of Chelinda, 1975, Pawek 10320 (K, MO, PRE, SRGH).

***Gladiolus muenzneri* Vaupel ●**

Plants 0.3–0.6 m tall, leaves 2–3, lanceolate, 10–120 mm long, ± entirely sheathing or short and overlapping; inflorescence unbranched, 2- to 8-flowered, bracts green, 18–25 mm long, bifid at the apex, flowers white to cream or yellow, sometimes flushed pinkish, without markings; in dry woodland and occasionally grassland, flowering December to mid-January. S. Tanzania, D.R.C. (Shaba Prov.), N.E. Zambia and northern Malawi to the Vitya Plateau.

Source. Photograph; Goldblatt 1996.

We have not seen a specimen of this species collected from the Nyika but include it on the basis of the colour photograph reproduced here (Plate 7) which is said to have been taken on the Nyika; and because it occurs both north and south of the Nyika.

***Gladiolus unguiculatus* Baker**

Gladiolus oatesii Rolfe

Plants 0.3–0.6 m tall; leaves 2–3, 60–90 mm long, entirely sheathing the stems and not overlapping; inflorescence with 10–18 flowers, flowers cream to light purple, lower 3 petals with a purple spear-shaped mark, flowering in profile with a 'window' between the upper petal and the lower petals; in woodland, dambos, wet areas over sheetrock, and in seasonally wet areas on shallow soils. Widespread throughout tropical Africa from northern South Africa to Senegal, Sudan, and Tanzania.

Source. Goldblatt (1996: 119).

Malawi. Nyika National Park, Chisanga Falls, 2000, Kasakula 204 (LMA, MAL, SRGH); without locality or collecting details (Mill 1979).

***Gladiolus velutinus* De Wild. ●**

Gladiolus katubensis De Wild.; *Gladiolus vallidissimus* Vaupel; *Gladiolus xanthus* L.Bolus

A large plant very similar to *G. dalenii*, but with broader leaves 20–35 mm wide, the flowers large, pale yellow with greenish highlights, the upper 3 petals conspicuously hooded; in marshes, dambos, and stream banks; Zambia, D.R.C., Tanzania, Uganda, and Malawi. This species is strikingly evident at Chelinda Bridge in March–April.

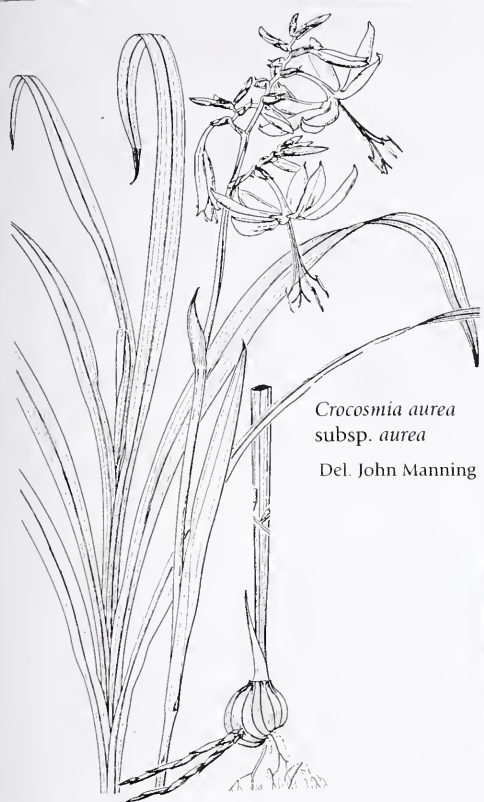
Source. *Flora zambesiaca* 12(4): 93 (1993); Goldblatt (1996: 221).

Malawi. Nyika Plateau, Lake Kaulime, 1969, Richards 10446 (K).

***Hesperantha longicollis* Baker**

Hesperantha matopensis Gibbs

Plants 300–500 mm high; leaves 5–6, ca 2 mm wide, erect or trailing, stem erect, rarely 1-branched, spike directed to one side (secund), with 3–6(9)



Crocosmia aurea
subsp. *aurea*
Del. John Manning



Dierama
longistylum
Del. Auriol Batten



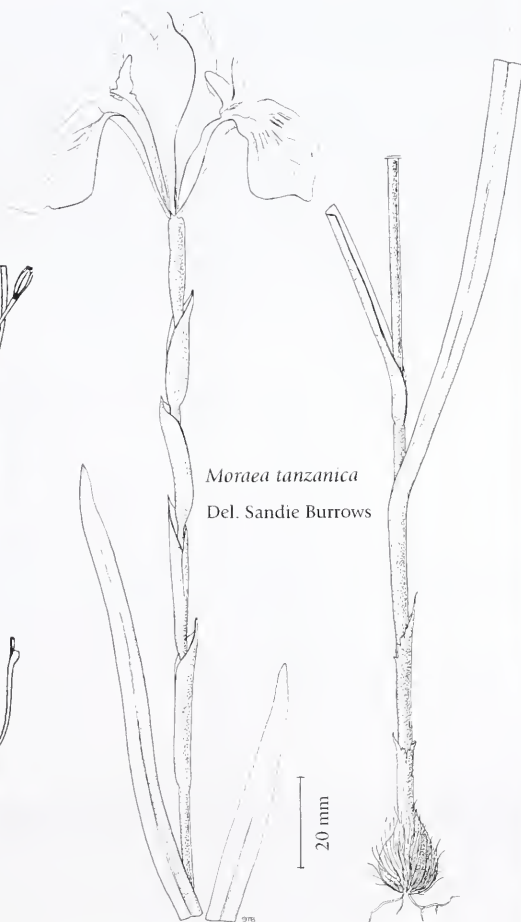
Gladiolus melleri
Del. John Manning



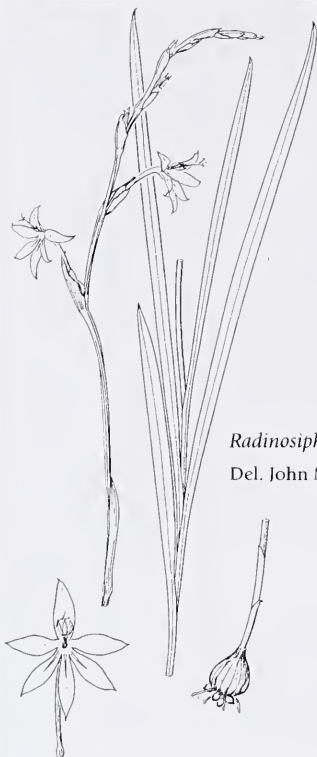
Hesperantha petitiana
Del. John Manning



Lapeirousia schimperi
Del. John Manning



Moraea tanzanica
Del. Sandie Burrows

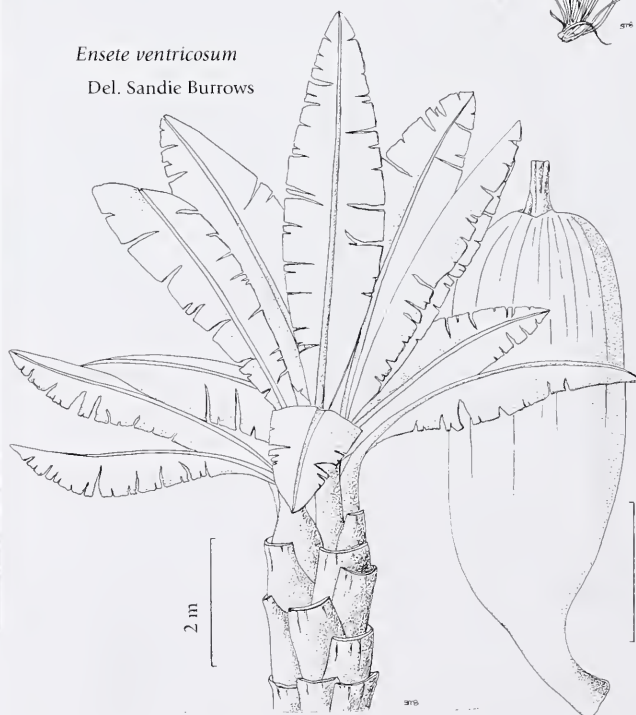


Radinosiphon leptostachya
Del. John Manning



Juncus dregeanus
Del. Sandie Burrows

Romulea camerooniana
Del. John Manning



Ensete ventricosum
Del. Sandie Burrows



Aerangis montana
Del. Graham Williamson

flowers, flowers down-curved, whitish to ivory, tube 18–25 mm long; along streams, in marshes and seepage areas; flowering mostly August–September, before the onset of the rains; flowers opening at ca 5 pm and probably moth-pollinated. South Africa, Botswana, Zimbabwe, Zambia, and Malawi.

Source. Goldblatt (1986: 135); *Flora zambesiaca* 12(4): 60 (1993).

Malawi. Nyika National Park, 8 km N.W. of Lake Kaulime, 1970, *Brummitt 10829* (K); Fingira Rock, 2000, *Willis 207* (PRE).

Hesperantha petitiiana (A.Rich.) Baker ❖

Plants 80–300 mm tall; leaves 3–4, 2–6 mm wide, erect, margins and midrib more or less thickened, stem erect, unbranched (rarely branched); spike with 2–19 flowers, flowers pink, lilac or white, actinomorphic, petals 12–15 x 5–7 mm; in mountainous areas, often in rocky sites, on cliffs or in low grassland above 1,800 m; flowering mostly February–April. Zimbabwe, Malawi, Tanzania, Uganda, Kenya, Ethiopia, and Cameroon. A variable species.

Source. Goldblatt (1986: 135); *Flora zambesiaca* 12(4): 59 (1993).

Malawi. Nyika Plateau, 1946, *Brass 17230* (K, MO, SRGH, US); Mwanda Mountain, 2000, *Willis 199* (MAL, PRE); Mpopoti Peak, 2000, *Izidine 63* (LMA).

Lapeirousia schimperii (Aschers. & Klatt) Milne-Redhead ❖

Plants 0.30–0.8 m tall; leaves 3 or more, slightly longer than the inflorescence, linear, 5–15 mm wide, midrib slightly raised, stem 4-angled or 4-winged above, laxly branched, each branch with 1–3 flowers, flowers large, white to cream, scented, opening in the evening, tube 100–150 mm long; in moist sites in arid country, often in washes, dambos, streamsides, and seasonal marshes, as well as in damp grassland; flowering December–March. The corms are edible and are eaten raw or roasted in northern Namibia.

Source. *Flora zambesiaca* 12(4): 37 (1993).

Malawi. Nyika Plateau, cultivated in Missouri Botanical Garden, *la Croix* in *Goldblatt* s.n. (MO).

Lapeirousia setifolia Harms ●

Lapeirousia erythrantha var. *setifolia* (Harms) Geerinck et al.;

Lapeirousia welwitschii Baker

Plants small, 50–150 mm tall; foliage leaves 3–7, 2–4 basally-clustered, the rest becoming smaller upwards, stems 3- to 4-angled, branching several times, each branch with 2–4 flowers, flowers unequal, blue to violet, lower petals with a white or dark blue mark, tube 8–10 mm long; in shallow, seasonally waterlogged soils on rock outcrops, flowering from December–March. Zimbabwe, Malawi, and S.W. Tanzania.

Source. *Flora zambesiaca* 12(4): 34 (1993).

Malawi. Nyika Plateau, Chelinda Bridge, 2,300 m, 1970, *Pawek 3421* (B, K, MAL, MO); 2000, *Izidine 56* (LMA); Chosi Viewpoint, 2000, *Mwanyambo 477* (MAL).

Moraea macrantha Baker ●

Plants 0.5–0.7 m tall; foliage leaf much exceeding the stem, linear, channelled, 5–7 mm wide, sheathing leaves 4–5, stem unbranched; flowers blue to violet with white to yellow nectar guides, main petals lanceolate, 60–80 long; in high-altitude woodlands and montane grassland, above 1,800 m; flowering late in the season, usually in March–June. N. Malawi, E. Zambia, S.W. Tanzania, and D.R.C. (eastern Shaba).

Source. Goldblatt (1977: 279); *Flora zambesiaca* 12(4): 21 (1993).

Malawi. Nyika National Park, without locality, 1973, *Pawek 6696* (MO, PRE); between Dembo River Bridge and Chelinda Camp, 2000, *Willis 30* (MAL, PRE, UZL); Mbuzinandi, 2000, *Mwanyambo 579* (MAL).

Zambia. Nyika Plateau, 2,190 m, 1961, *Richards 14388* (K, UZL).

Moraea schimperii (Hochst.) Pic.Serm.

Moraea zambesiaca Baker

Plants 200–500 mm tall; foliage leaf solitary, usually emerging with the flowering stem, leaf shorter than the spike at flowering, but much longer after flowering, 9–15 mm wide, channelled to flat, sheathing leaves 2(4), stem unbranched; flowers pale to deep blue or violet with white or yellow nectar guides, main petals 40–65 mm long; in permanently moist sites; generally flowering at the end of the dry season or early in the wet season, mostly in October–December in Central Africa. This is one of the most widespread species in the genus.

Source. Goldblatt (1977: 268); *Flora zambesiaca* 12(4): 24 (1993).

Malawi. Nyika Plateau, 1958, *Robson & Angus 326* (BM, BR, K, LISC, SRGH); Chelinda Bridge, 1967, *Pawek 1407* (SRGH).

Zambia. Nyika Plateau, 1959, *Robinson 3012* (K, M, PRE, SRGH).

No country given. 1967, *Richards 22448* (UZL).

Moraea stricta Baker

Plants usually 150–250 mm tall; foliage leaves solitary, usually appearing after the flowers, up to 600 mm long, round in section, stem erect, 3- to 6-branched; flowers sessile, pale lilac to blue-violet with yellow-orange nectar guides, main petals obovate, 11–14 x 5–8 mm; in open, often in stony submontane grassland and flowering among dry grasses at the end of the dry season (September–November). South Africa (Eastern Cape) northwards through eastern Africa to Ethiopia.

Source. *Flora zambesiaca* 12(4): 17 (1993).

Malawi. Nyika Plateau, Chelinda Bridge area, 1975, *Pawek 10289* (MO).

Zambia. Nyika Plateau, Chowo Forest, 2,200 m, 1969, *Pawek 2854* (K, MAL).

Moraea tanzanica Goldblatt ❖

Plants 200–350 mm tall; foliage leaf solitary, shorter, or only slightly longer, than the spike, 3–6 mm wide, linear, channelled, sheathing leaves 2(3), stem unbranched; flowers pale yellow with deeper yellow nectar guides; in open montane grassland above 2,200 m; flowering in January–March. Confined to N. Malawi and S.W. Tanzania.

Source. Goldblatt (1977: 283); *Flora zambesiaca* 12(4): 23 (1993).

Malawi. Nyika Plateau, Katumbi, Juniper Forest turnoff, 1976, *Phillips 1071A* (K, MO, SRGH); 1973, *Pawek 6660* (MO).

Radinosiphon leptostachya (Baker) N.E.Br. ❖

Plants 100–500 mm tall; leaves several, basal, reaching the base of the spike, 8–15 mm wide, flat, midrib and margins more or less raised, stem simple or 1- to 3-branched, spike with 2–12 flowers, flowers unequal, pink or purple, tube 20–30 mm long; in mountainous areas above 1,800 m, in rocky grassland, among boulders or on cliffs; flowering December–March. South Africa to Zambia and S. Tanzania.

Source. *Flora zambesiaca* 12(4): 65 (1993).

Malawi. Nyika National Park, without locality or collecting details (Mall 1979).

Romulea camerooniana Baker ❖

Romulea campanuloides Harms; *Romulea thodei* Schltr.; *Romulea fischeri* Pax

Plants 70–120 mm tall; leaves 1–4, straight or curved, filiform, 1–1.5 mm diameter, stems 1–4, more or less erect, with one flowering per stem; flowers actinomorphic, lilac to violet, white to yellow in the centre, petals dark-veined, 12–20 mm long; in montane grassland, amongst rocks, and on rock outcrops and cliffs; flowering mostly in December–April. Lesotho and the Eastern Cape of South Africa, extending northwards to Ethiopia and the Jebel Marra in the Sudan.

Source. *Flora zambesiaca* 12(4): 63 (1993).

Malawi. Nyika National Park, Nganda Hill, 2000, *Burrows & Burrows 6847* (MAL, PRE).

Zambia. Nyika Plateau, Chowo Rock, 2,200 m, 1978, *Pawek 13764* (K, MAL, MO).

No country given. Without locality, 7,300', 1972, *Richards 14380* (UZL).

Excluded species

Moraea textilis (Welw.) Baker

A western species only recorded from N.W. Zambia (Mwinilunga) and Angola (*Flora zambesiaca* 12(4): 21, 1993) and it is therefore presumed

that these records are mistaken identifications for the similar *M. macrantha*. This confusion is supported by the fact that the Richards collection (below) is listed as *M. macrantha* in *Flora zambesiaca*.

Source. Goldblatt (1977: 281).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Zambia. Nyika National Park, Manyenere Forest, 2000, *Phiri 4030* (UZL); without locality, 7,300', 1961, *Richards 14388* (UZL).

Moraea thomsonii Baker

Goldblatt (1977: 265) lists three collections of *M. thomsonii* from Nyika [*Robson 231* (K, LISC, SRGH); *Pawek 1390* (SRGH); *Pawek 2854* (K,

MAL)], but in the same treatment, lists *M. stricta* as a synonym of *M. thomsonii*. In his treatment of *Moraea* in *Flora zambesiaca* 12(4): 17 (1993), Goldblatt quotes only a single collection from Malawi (Chinthembwe, Nkotakota District), but resurrects *M. stricta*, quoting *Pawek 2854* under that species. We therefore presume that his revised concept of *M. thomsonii* excludes any plants from Nyika and that they all belong to *M. stricta*.

Source. Goldblatt (1977: 262)

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

JUNCACEAE

Juncus dregeanus Kunth ✧

Perennial, densely tufted, up to 450 mm high, often turning brown when dry; leaves many, grass-like; inflorescence taller than leaves, consisting of up to 8 sub-spherical heads so contracted as to appear as 1–3 heads only; in swamps and in still waters along streams in upland rainforest, evergreen bush land, and grassland. Southern Africa and tropical Africa except in the West.

Malawi. Nyika National Park, Dam #2, 2000, *Smook 10823* (PRE, MAL, UZL, SRGH, LMA); near Juniper Forest, 2000, *Smook 10916* (PRE, MAL, UZL, SRGH, LMA).

Juncus oxycarpus Kunth

Juncus quartianianus A.Rich.; *Juncus fontanesii* sensu Engl., non Laharpe; *Juncus suboxycarpus* Adamson

Perennial, erect, sometimes trailing and rooting at nodes; leaves few, cylindrical and septated; inflorescence taller than leaves, branched, heads globose to subglobose; wet places on stream banks and swampy places. Widespread in Africa.

Source. Patel (1997).

Malawi. Nyika National Park, near Juniper Forest, 2000, *Smook 10915* (PRE, MAL, UZL, SRGH).

MUSACEAE

Ensete ventricosum (Welw.) Cheesman ✧●

Ensete edule (Gmel.) Horan.; *Ensete b Buchananii* (Baker) Cheesman

Banana-like plant to 6 m tall, with a thick fleshy stem composed of the clasping leaf bases, purplish; leaves large, simple, clustered at stem apex, up to 3 m x 0.8 m, hairless; inflorescence large, pendulous, to 1 m long, flowers off-white; fruit a small woody capsule splitting to reveal black shiny seeds; in moist ravines in rainforest, usually along streams and on seepage

areas in forest; 1,200–2,000 m. South Africa northwards through central tropical Africa. The plants are monocarpic, that is, the entire plant dies once it has finished fruiting, an event that takes place every 6–9 years. The seeds are used as counters in the traditional board game of *baob*.

Source. White *et al.* (2001: 103).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Nkhonjera Hill (White *et al.* 2001).

ORCHIDACEAE

Aerangis carnea J.L.Stewart

Epiphyte; leaves 3–4 in one plane; flowers 2- to 7-flowered, white, tipped with pink, spur 5–6 mm long; in deep shade on trunks and branches in submontane or riverine forest; 1,600–1,900 m. N. Malawi and S. Tanzania.

Source. Dowsett-Lemaire (1985); *la Croix et al.* (1991).

Malawi. Nyika National Park, Chisanga Falls (*la Croix et al.* 1991: 247).

Aerangis montana J.L.Stewart ✧

Epiphyte; flowers white, tinged pink, spur 5–6 mm long; rarely lithophytic; in montane evergreen rainforest and gully forest, often on trunks at low levels, where the plants sometimes form large tangled masses, or on lower branches or lianes, usually in very deep shade; (1,370) 2,200–2,400 m. Zambia, Malawi, and Tanzania.

Source. *Flora zambesiaca* 11(2): 387 (1998).

Malawi. Nyika National Park, Juniper Forest, 2,200 m, 1982, *la Croix 343* (K); in most forest patches on the high plateau (*la Croix et al.* 1991: 250).

Zambia. Nyika Plateau, on rocky outcrop, 1968, *Williamson 1055* (K).

Aerangis somalensis (Schltr.) Schltr.

Epiphyte; flowers white, sometimes tinged pink, spur 10–15 mm long; *Brachystegia* woodland and riverine forest, often forming colonies on lower branches of trees; 1,360–1,800 m. Widespread in eastern, central, and southern Africa.

Source. *Flora zambesiaca* 11(2): 390 (1998).

Malawi. Nyika National Park, by Mbuzinandi Road, 1,800 m, 1983, *la Croix 432* (K).

Aerangis verdickii (De Wild.) Schltr.

Epiphytic orchid; leaves 3–5, grey-green, inflorescence with up to 16 flowers; flowers white, sweetly scented, spur 170–190 mm long; in open woodland, in dry areas or at higher altitudes; 100–1,800 m. South Africa to Angola, D.R.C., and Tanzania.

Malawi. Nyika National Park, without locality; Nyika approach (*la Croix et al.* 1991: 254).

Angraecopsis malawiensis P.J.Cribb

Very small epiphytic orchid, almost stemless; flowers green or yellow-green, spur 3–4 mm long; on twigs and small branches in riverine and montane evergreen rainforest, usually in deep shade; 1,700–2,300 m. Malawi and Tanzania.

Source. *Flora zambesiaca* 11(2): 400 (1998).

Malawi. Nyika National Park, Kasaramba Forest, 2,300 m, 1986, *I.F. & E.A.S. la Croix 860* (K).

Angraecopsis parva (P.J.Cribb) P.J.Cribb ✧

Holmesia parva P.J.Cribb; *Microholmesia parva* P.J.Cribb

Dwarf epiphytic plant; flowers greenish white, spur 1–2 mm long; in montane forest in deep shade, on tree trunks and branches with moss and lichen; ca 2,285 m. Malawi and Tanzania.

Source. *Flora zambesiaca* 11(2): 400 (1998).

Malawi. Nyika National Park, 2,285 m, 1960, *Holmes 230* (K, holo., SRGH); without locality, *Williamson, Ball & Simon 383* (as *Angraecum* sp. in *Williamson* 1977: 177).

Angraecum chamaeanthus Schltr.

Epiphyte; flowers white, spur 0.8–1.4 mm long; montane and submontane forest; 1,400–2,300 m. Widespread in tropical Africa. This is one of the smallest of all African orchids.

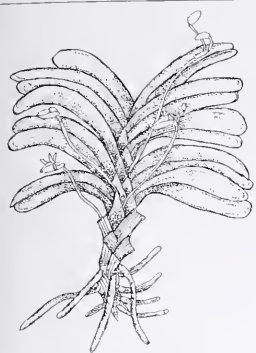
Source. *Flora zambesiaca* 11(2): 370 (1998).

Malawi. Nyika National Park, forest patch on road to Kasaramba, 2,250 m, 1983, *la Croix & Elias 516* (K).

Angraecum sacciferum Lindl. ✧

Angraecum parvum Schltr.; *Angraecum crassifolia* G.Will.

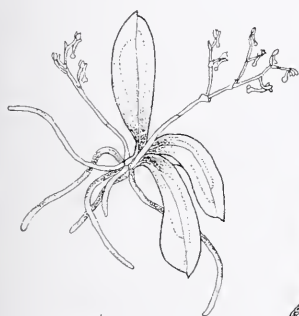
Dwarf epiphytic orchid; flowers green, yellow-green or cream; in montane and submontane evergreen forest, occasionally in riverine forest and high-rainfall *Brachystegia* woodland; 1,100–2,300 m. Widespread in tropical Africa. Plants from the Nyika Plateau often have large flowers, 8 mm in diameter as opposed to the usual 4 mm.



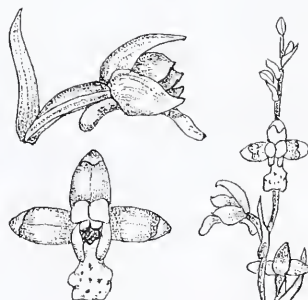
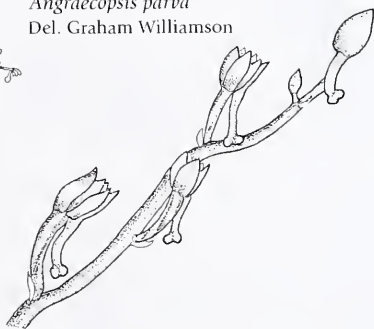
Angraecum sacciferum
Del. Graham Williamson



Angraecum stolzii
Del. Graham Williamson



Angraecopsis parva
Del. Graham Williamson



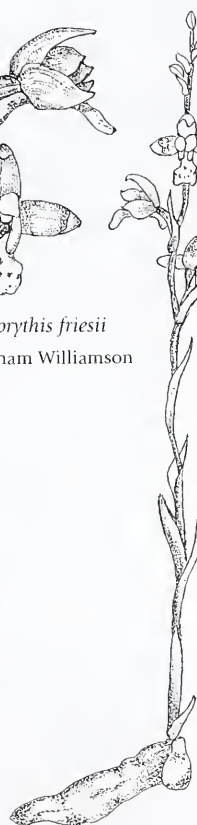
Brachycorythis friesii
Del. Graham Williamson

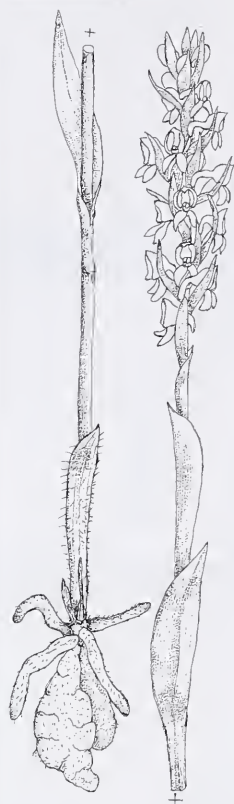


Brachycorythis inhambanensis
Del. Graham Williamson



Bolusiella iridifolia subsp. *picea*
Del. Graham Williamson





Brownleea parviflora
Del. Graham Williamson



Bulbophyllum elliotii
Del. Graham Williamson



Bulbophyllum maximum
Del. Graham Williamson



Bulbophyllum rugosibulbum
Del. Graham Williamson

Source. *Flora zambesiaca* 11(2): 371 (1998).

Malawi. Nyika National Park, montane forest patch on road to Kasaramba, 2,250 m, 1983, *la Croix* 409 (K); Kasaramba, 1968, *Williamson, Ball & Simon* (K).

Zambia. Nyika Plateau, Manyanjere Forest, 2,050 m, 1982, *Dowsett-Lemaire* 364 (K).

Angraecum stolzii Schltr. ✧

Flowers orange to straw-coloured; epiphytic at high and low levels in evergreen forest; 1,500–2,050 m. Malawi, Zambia, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 11(2): 374 (1998).

Malawi. Nyika National Park, without locality, in evergreen forest patch, *Salubeni* 353 (K).

Bolusiella iridifolia (Rolfe) Schltr. subsp. **picea** P.J.Cribb ✧

Very small epiphytic orchid; leaves fan-shaped; flowers white, spur 0.5 mm long; in montane and submontane evergreen rainforest and gully forest, also in high-altitude woodland; 1,400–2,438 m. Malawi, Zambia, Kenya, and Tanzania.

Source. *Flora zambesiaca* 11(2): 401 (1998); G. Williamson, pers. comm.

Malawi. Nyika National Park, Lake Kaulime, 2000, *Burrows* sub *Kurzweil* 2040 (MAL); *ibid.*, 1968, *Williamson* 1056 (K); in various forest patches (*la Croix et al.* 1991: 259).

Zambia. Nyika Plateau, near Rest House, 1970, *Williamson* 1940 (K, holo.).

Brachycorythis friesii (Schltr.) Summerh. ✧

Terrestrial orchid; flowers white to purple, spur 2.5–4.5 mm long; seepage areas on granite outcrops, woodland; 1,200–1,650 m. Malawi, Zambia, D.R.C., Burundi, Angola, and Tanzania.

Source. UZL.

Malawi. Nyika Plateau, 1967, *Williamson* 650 (UZL).

Brachycorythis inhambanensis (Schltr.) Schltr. ✧

Terrestrial orchid; flowers whitish or yellow-green with purple markings, lip spurless; in wet grassland at about 2,400 m. South Africa, Mozambique, Zimbabwe, Zambia, Malawi, and D.R.C.

Source. *Flora zambesiaca* 11(1): 20 (1995).

Malawi. Nyika National Park, near Lake Kaulime, 1969, *Ball* 1193 (SRGH); *ibid.*, *Williamson, Ball & Simon* 342 (SRGH).

Brachycorythis ovata Lindl. subsp. **welwitschii** (Rchb.f.) Summerh.

Terrestrial orchid; flowers mauve and white, lip boat-shaped; montane grassland and dry dambos; 1,650–2,200 m. Zimbabwe, Zambia, Angola, Malawi, D.R.C., Burundi, and Tanzania.

Source. *Flora zambesiaca* 11(1): 22 (1995); *la Croix et al.* (1991: 31).

Malawi. Nyika Plateau, track to Rukuru (Chisanga) Falls, 1,800 m, 1959, *Richards* 10520 (K, SRGH).

Zambia. Nyika Plateau, 2,200 m, 1964, *Benson* NR 427 (K).

Brachycorythis pleistophylla Rchb.f. subsp. **pleistophylla** ●

Terrestrial orchid; flowers mauve-purple, petals and lip longer than broad, lip boat-shaped; in grassland, open woodland, and dambo margins; 1,100–2,200 m forest. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 21 (1995); *la Croix et al.* (1991: 31).

Zambia. Nyika National Park, 1966, *Williamson* 128 (K, SRGH).

Brachycorythis pleistophylla Rchb.f. subsp. **leipoldii** (Kraenzl.) Summerh.

As for subsp. *pleistophylla*, but the petals and lip about as broad as long; in grassland and edge of woodland. N. Malawi, D.R.C., Tanzania, and Gabon.

Malawi. Nyika National Park, on plateau area (*la Croix et al.* 1991: 32).

Brachycorythis pubescens Harv.

Brachycorythis stolzii Schltr.

Terrestrial orchid; flowers pink and yellow, lip saccate; grassland, edges of dambos, and open woodland; 500–2,250 m. Throughout tropical Africa.

Source. *Flora zambesiaca* 11(1): 23 (1995).

Zambia. Nyika Plateau, 1959, *Robinson* 3065 (?K).

Brachycorythis rhodostachys (Schltr.) Summerh.

Terrestrial orchid, ca 350 mm tall; flowers lilac with darker blotches, spur green, 3 mm long; in bogs and dambos, 600–2,300 m. N. Malawi, Zambia, Angola, D.R.C., and Tanzania.

Malawi. Nyika National Park, in several montane bogs (*la Croix et al.* 1991: 33).

Brachycorythis tenuior Rchb.f.

Terrestrial orchid; flowers pale to deep purple with darker spots, spur 5–9 mm long; open grassy areas, dambo margins, and in long grass in woodland; 1,050–1,800 m. Widely distributed in tropical Africa and South Africa.

Source. *Flora zambesiaca* 11(1): 17 (1995).

Malawi. Nyika National Park, Mbuzinandi Road, 1,800 m, 1983, *la Croix* 416 (K).

Brownleea parviflora Harv. ex Lindl. ✧

Brownleea apetala Kraenzl.; *Brownleea gracilis* Schltr.

Terrestrial orchid; flowers white, tinged pink or green, spur 3–5 mm long; montane grassland. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 191 (1995)

Malawi. Nyika Plateau, 1961, *Robinson* 4477 (K); Chosi Hill, 2000, *Kurzweil* 1972 (MAL, SRGH, UZL).

Zambia. Nyika Plateau, 1967, *Williamson & Odgers* 294 (K, SRGH).

Bulbophyllum bavonis J.J.Verm.

Epiphyte, pseudobulbs 2-leaved, inflorescence arching, to 350 mm long; flowers white with yellow lip, lemon-scented; in evergreen forest; 1,600–2,350 m. Malawi and Tanzania.

Source. *Flora zambesiaca* 11(1): 295 (1995).

Malawi. Nyika, E. escarpment, Mwenembwe Forest, 2,350 m, 1983, *Dowsett-Lemaire* 776 (K).

Bulbophyllum cochleatum Lindl.

Epiphytic or epilithic orchid, pseudobulb 2-leaved, inflorescence shortish, erect, to 90 mm tall; flowers green, tinged with purple; high-level epiphyte in forest, or on rocks; 1,800–1,900 m. Malawi and Zambia northwards to W. Africa and Sudan.

Malawi. Nyika National Park, near Chisanga Falls (*la Croix et al.* 1991: 94).

Bulbophyllum elliotii Rolfe ✧

Bulbophyllum malawiense Morris

Small epiphytic orchid, pseudobulbs squat, 2-leaved, inflorescence 40–50 mm long; flowers red-purple; in high-rainfall *Brachystegia* woodland; 600–1,600 m. Widespread in tropical Africa.

Source. UZL (*la Croix et al.* 1991: 197).

Zambia. Nyika Plateau, 1967, *Williamson* 1397A (UZL).

Bulbophyllum expallidum J.J.Verm.

Epiphytic orchid, pseudo-bulbs 1-leaved, inflorescence to 350 mm long, more or less erect; flowers creamy white; in mixed high-rainfall woodland; 1,300–1,900 m. Malawi, Zambia, D.R.C., and Rwanda.

Malawi. Nyika National Park, in woodland, without locality (*la Croix et al.* 1991: 188).

Bulbophyllum josephi (Kuntze) Summerh.

Bulbophyllum amanicum Kraenzl.; *Bulbophyllum mahonii* Rolfe

Epiphytic orchid, pseudo-bulbs 1-leaved, inflorescence many flowered, pendulous; flowers white; woodland and submontane evergreen forest; 1,050–1,900 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 297 (1995).

Malawi. Nyika National Park, top of path to Chisanga Falls, 1,900 m, 1982, *la Croix* 337 (K).

Bulbophyllum maximum (Lindl.) Rchb.f. ✧

Large epiphytic orchid, pseudobulbs 2-leaved, inflorescence erect, rachis flattened, leaf-like, 300–500 mm long and to 40 mm wide; flowers numerous, green, marked with purple; in woodland; 600–1,600 m. Widespread in tropical Africa.

Malawi. Nyika National Park, Wovwe Valley (*la Croix et al.* 1991: 202).

Bulbophyllum rugosibulbum Summerh. ❖

Bulbophyllum cochleatum Lindl. var. *gravidum* (Lindl.) J.J.Verm.

Epiphytic orchid, pseudobulb ovoid, 2-leaved, inflorescence erect, to 50 mm long, to 20-flowered; flowers maroon-purple; in *Brachystegia* woodland, 1,250–1,800 m. Malawi, Zambia, and Tanzania.

Source. *Flora zambesiaca* 11(1): 295 (1995).

Malawi. Nyika National Park, near Thazima, 1987, *la Croix* 929 (K).

Bulbophyllum sandersonii (Hook.f.) Rchb.f. ❖

Epilithic orchid, pseudobulb 2-leaved, inflorescence erect, 100–160 mm long, many-flowered; flowers green, heavily mottled with purple; on rocks in montane grassland (Nyika) or in *Brachystegia* woodland; 1,000–2,200 m. South Africa northwards throughout tropical Africa.

Malawi. Nyika National Park, without locality (*la Croix et al.* 1991: 205).

Bulbophyllum stolzii Schltr.

Epiphytic orchid, pseudobulbs 2-leaved, inflorescence to 65 mm long, to 10-flowered, white, lip yellow, sepals purple-edged; in montane forest; 1,700–2,300 m. Malawi and Tanzania.

Malawi. Nyika National Park, Kasaramba Forest (*la Croix et al.* 1991: 192).

Calanthe sylvatica (Thouars) Lindl. ❖

Calanthe volkensii Rolfe; *Calanthe neglecta* Schltr.; *Calanthe stolzii* Schltr.; *Calanthe schliebenii* Mansf.

Terrestrial orchid; flowers white or pink, spur 10–40 mm long; in evergreen and riverine forest, often near streams and in swampy areas; 900–1,700 m. Widespread in tropical Africa, South Africa, Madagascar, and possibly Asia.

Source. *Flora zambesiaca* 11(1): 273 (1995)

Malawi. Nyika National Park, upper Wovwe Valley, 2000, *Kurzweil* 2049 (MAL).

Zambia. Nyika Plateau, Chowo Forest, 2,000 m, *Laing* s.n. (SRGH).

Cardiochilos williamsonii P.J.Cribb ❖

Low-level epiphyte; flowers cream, green, yellowish or orange, spur 13–16 mm long; in montane and submontane forest, usually growing in moss and lichen; 2,200–2,350 m. Malawi and Tanzania.

Source. *Flora zambesiaca* 11(2): 407 (1998).

Malawi. Nyika Plateau, Kasaramba, 2,200 m, 1968, *Williamson, Ball & Simon* 388 (K, *holo.*).

Cynorkis anacamptoides Kraenzl. var. *anacamptoides* ❖

Terrestrial orchid; flowers mauve or purple, occasionally white, spur 3.2–5 mm long; wet and marshy areas; 600–2,300 m. Widespread in Africa.

Malawi. Nyika National Park, Lake Kaulime, 2000, *Kurzweil* 2007 (MAL, UZL).

Zambia. Nyika Plateau, near Rest House, 1959, *Richards* 10406 (K).

Cynorkis anacamptoides Kraenzl. var. *ecalcarata* P.J.Cribb

Terrestrial orchid; flowers pink, spur absent; wet and marshy areas; 600–2,300 m. Endemic to Nyika Plateau; known from only two collections.

Source. *Flora zambesiaca* 11(1): 52 (1995).

Malawi. Nyika Plateau, perennial dambo close to the Zambian border, *Williamson* 233 (K, *holo.*, SRGH); 3 km N. of Lake Kaulime, 1969, *Ball* 1213 (K, SRGH).

Cynorkis hanningtonii Rolfe

Terrestrial orchid; flowers white to pink, spur 2–11 mm long; in woodland, grass near streams; 900–1,900 m. Zimbabwe, Malawi, Zambia, Angola, D.R.C., Uganda, and Tanzania.

Source. University of Zambia Orchidarium (UZL); *Flora zambesiaca* 11(1): 53 (1995).

Malawi. Nyika Plateau, 1968, *Williamson* 830 (UZL, SRGH).

Cynorkis kassneriana Kraenzl.

Terrestrial orchid; flowers purple, spur 8–10 mm long; in leaf litter or on rotting logs in forest, including pine forest; occasionally a low-level epiphyte on tree trunks, also on rocky seepage slopes; 1,300–2,300 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 55 (1995).

Malawi. Nyika National Park, Chelinda Rest Camp, 2000, *Kurzweil* 1982 (MAL).

Zambia. Nyika Plateau, 1967, *Williamson & Odgers* 286 (K); 1968, *Williamson* 831 (UZL, SRGH).

Cyrtorchis arcuata Lindl. subsp. *whytei* (Rolfe) Summerh.

Robust epiphytic orchid; leaves dull green, 20–30 mm wide; flowers waxy, creamy white, sweetly scented, spur 50–60 mm long; in riverine and submontane forest, also high-rainfall *Brachystegia* woodland; 900–1,800 m; flowering April–May. Malawi and Zambia to Tanzania and W. Africa.

Malawi. Nyika National Park, without locality (*la Croix et al.* 1991: 265).

Cyrtorchis crassifolia Schltr. ❖

Epiphytic orchid; leaves thickly fleshy, glaucous grey-green; flowers creamy white, spur 20–30 mm long; in *Brachystegia–Uapaca* woodland in areas of high rainfall and winter mists; 1,200–2,050 m. Zimbabwe, Mozambique, Malawi, Zambia, D.R.C., and Tanzania.

Malawi. Nyika National Park, in woodland, without locality (*la Croix et al.* 1991: 266).

Diaphanante oxycentron P.J.Cribb ❖

Epiphyte; flowers translucent yellow or yellow-green, spur 4–5 mm long; low-level epiphytic on tree branches and lianes in montane mist forest; (1,300)1,700–2,300 m. Endemic to Malawi and the Zambian Nyika; a Nyika near-endemic.

Source. *Flora zambesiaca* 11(2): 425 (1998).

Malawi. Nyika Plateau, montane mist forest, 1968, *Williamson, Ball & Simon* 381 (K, *holo.*).

Zambia. Nyika Plateau, forest patches near Rest House, 2,150 m, 1982, *Dowsett-Lemaire* 368 (K).

Diaphanante pulchella Summerh.

Diaphanante pachyrrhiza P.J.Cribb

Epiphytic orchid on a mound of roots; leaves ligulate, unequally bilobed; flowers translucent yellow, spur 10 mm long; in *Brachystegia* woodland on rocky hillsides, or in riverine forest; 1,000–1,800 m. Malawi, Zambia, Tanzania, and Kenya.

Malawi. Nyika National Park, occasional in woodland (*la Croix et al.* 1991: 271).

Diaphanante xanthopollinia (Rchb.f.) Summerh.

Epiphyte; flowers creamy yellow, spur 5–7 mm long; in high-rainfall *Brachystegia* woodland, also in submontane and riverine forest; 600–1,800 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(2): 423 (1998).

Malawi. Nyika Plateau, in *Brachystegia* woodland, ca 1,800 m, 1982, *la Croix* 323 (K); Nyika approach (*la Croix et al.* 1991: 276).

Disa aconitoides Sond. subsp. *concinna* (N.E.Br.)

H.P.Linder

Disa bisetosa Kraenzl.

Terrestrial orchid; flowers pale mauve with darker spots, spur 4–6 mm long; *Brachystegia* woodland, montane grassland, and dambos; 1,000–2,000 m. Zimbabwe, Zambia, Malawi, Mozambique, and D.R.C.

Source. *Flora zambesiaca* 11(1): 175 (1995).

Malawi. Nyika Plateau, 1976, *Phillips* 823 (K).

Zambia. Nyika Plateau, 1966, *Williamson* 221 (K, SRGH).

Disa baurii Bolus

Herschelia baurii (Bolus) Kraenzl.; *Herschelianthe baurii* (Bolus)

Rauschert; *Disa hamatopetala* Rendle

Terrestrial orchid; flowers pale to deep blue, spur 4–6 mm long; in short montane grassland; above 1,000 m. South Africa, Zimbabwe, Mozambique, Zambia, Malawi, D.R.C., and Tanzania.

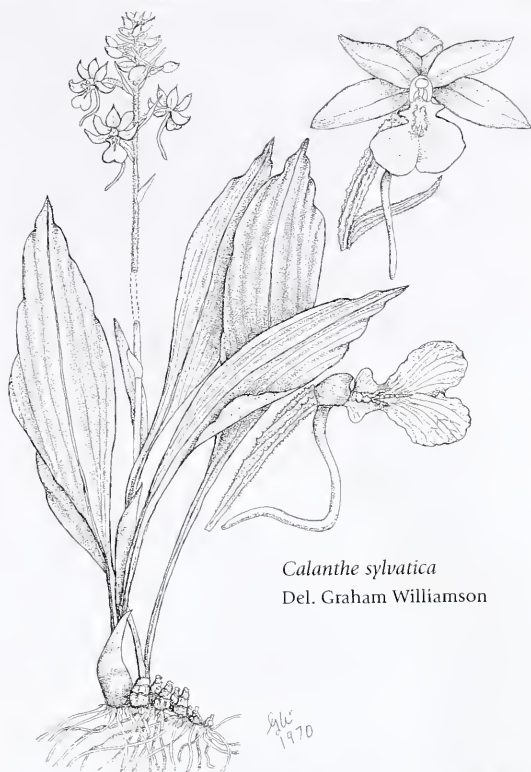
Source. *Flora zambesiaca* 11(1): 195 (1995).

Malawi. Nyika Plateau, towards Nganda, 1958, *Robson & Angus* 297 (K, LISC).

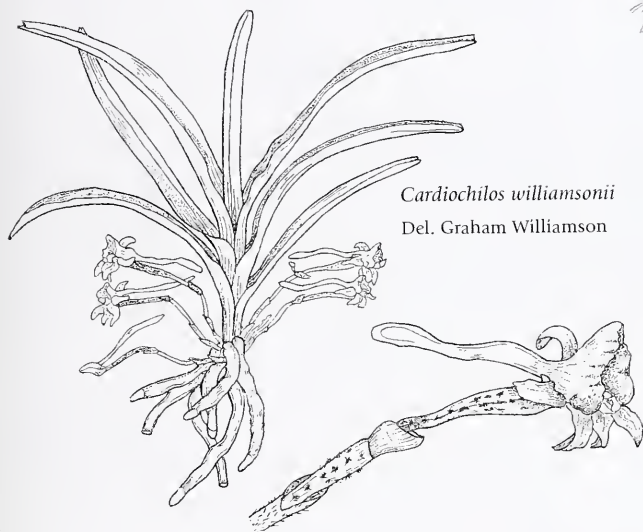
Zambia. Nyika Plateau, by road 4 miles S.W. of Rest House, 1958, *Robson & Angus* 358 (BM, K, LISC, SRGH).

No country given. 1967, *Richards* 22574 (UZL).

Bulbophyllum sandersonii
Del. Graham Williamson



Calanthe sylvatica
Del. Graham Williamson



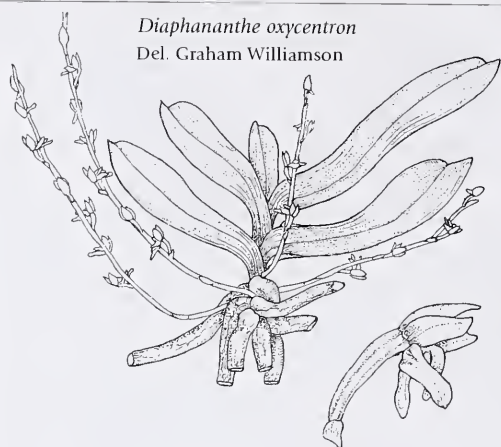
Cardiochilos williamsonii
Del. Graham Williamson



Cynorkis anacamptoides
Del. Graham Williamson

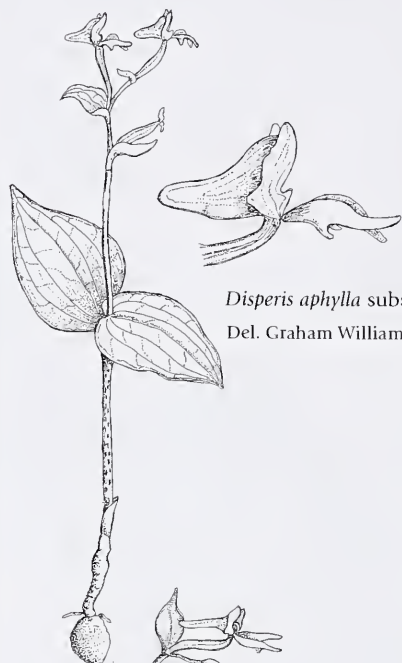


Cyrtorchis crassifolia
Del. Graham Williamson

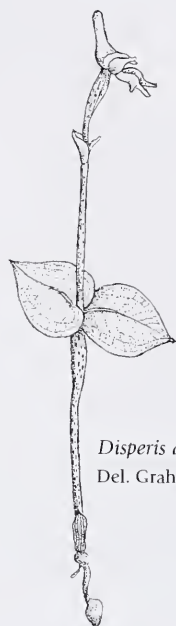


Diaphanathe oxycentron
Del. Graham Williamson

Disa erubescens
Del. Graham Williamson



Disperis aphylla subsp. *bifolia*
Del. Graham Williamson



Disperis anthoceros
Del. Graham Williamson



Disperis nemorosa
Del. Graham Williamson



Disperis kilimanjarica
Del. Graham Williamson

Disperis dicerochila
Del. Graham Williamson



Disa caffra* Bolus ●Disa compta* Summerh.

Terrestrial orchid; flowers pink, spur 8–15 mm long; in wet grassland, usually dambos; 1,400–1,700 m. South Africa, Malawi, Zambia, Angola, S. Tanzania; also in Madagascar.

Source. *Flora zambesiaca* 11(1): 181 (1995)

Malawi. Nyika Plateau, 1966, *Williamson* 167 (K, SRGH).

***Disa celata* Summerh.**

Terrestrial orchid; flowers orange to yellow, spur 5–6.5 mm long; in wet marshy grassland in dambos; 1,400–2,200 m. Malawi, Zambia, Angola, and S. Tanzania.

Source. *Flora zambesiaca* 11(1): 165 (1995)

Malawi. Nyika Plateau, 3 km N. of Lake Kaulime, 1969, *Ball* 1214 (SRGH).

Zambia. Nyika Plateau, Zambian Border, 1968, *Williamson* 404 (K, SRGH).

Disa engleriana* Kraenzl.Disa subscutellifera* Kraenzl.

Terrestrial orchid; flowers pink, spur 13–20 mm long; usually in *Brachystegia* and *Uapaca* woodlands and associated dambos and grassland, on lateritic and sandy soil, not montane; 1,000–2,000 m. Malawi, Zambia, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 11(1): 167 (1995).

Malawi. Nyika Plateau, 1960, *Holmes* 211 (K, SRGH); 1968, *Williamson* 846 (UZL).

***Disa equestris* Rchb.f.**

Terrestrial orchid; flowers violet to purple, spur 6–8 mm long; usually in wet dambo grassland, but also in montane grassland. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 178 (1995).

Malawi. Nyika, 1966, *Williamson* 151 (K, SRGH).

***Disa erubescens* Rendle var. *erubescens* ❖**

Terrestrial orchid, inflorescence of 3–6 flowers; flowers red, dorsal sepal < 30 mm long, spur 8–16 mm long; wet montane grassland and bogs; 1,280–2,400 m. Widespread in tropical Africa.

Malawi. Nyika National Park, Lake Kaulime, 1968, *Williamson*, *Ball* & *Simon* 820 (K); in moist bogs and areas of wet montane grassland (la Croix *et al.* 1991: 117).

Zambia. Nyika Plateau, Chowo Rocks, 1968, *Williamson*, *Ball* & *Simon* 793 (K).

Disa erubescens* Rendle subsp. *carsonii* (N.E.Br.) H.P.LinderDisa stolzii* Schltr.

Terrestrial orchid, inflorescence of 1–4 flowers; flowers red, dorsal sepal > 30 mm long, spur 8–16 mm long; in damp or wet montane grassland, *Brachystegia* woodland. Zambia, Malawi, Mozambique, Burundi, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 11(1): 172 (1995); la Croix *et al.* (1991: 118).

Malawi. Nyika National Park, without locality or collector (Mill 1979); Nyika Plateau, Lake Kaulime, 1968, *Ball* 1067 (K, SRGH).

Zambia. Nyika Plateau, 1966, *Williamson* 222 (K).

Disa hircicornis* Rchb.f. ●Disa amblyopetala* Schltr.

Terrestrial orchid; flowers purple, spur 8–13 mm long; swampy and wet grassland; 1,500–1,800(2,700) m. Widespread in tropical Africa. The flower colour of this species is extremely variable.

Source. *Flora zambesiaca* 11(1): 180 (1995).

Malawi. Nyika National Park, Wovwe River valley, 2000, *Kurzweil* 2042 (MAL, UZL).

Zambia. Nyika Plateau, 1966, *Williamson* 184 (K).

Disa longilabris* Schltr. ❖Herschelia longilabris* (Schltr.) Rolfe

Terrestrial orchid; flowers blue, spur 3–4 mm long; in short montane grassland; 2,400–2,500 m. Malawi and Tanzania.

Source. *Flora zambesiaca* 11(1): 197 (1995).

Malawi. Nyika Plateau, 4 km from Dembo Bridge to Nganda, 1986, *Linder* 3907 (BOL, SRGH); central grasslands, 1968, *Williamson* 1023 (SRGH).

***Disa miniata* Summerh.**

Terrestrial orchid; flowers orange, spur 3.5–4.2 mm long; in wet grassland, dambos or river valleys, usually submontane; above 1,000 m. Malawi, Zambia, Zimbabwe, Mozambique, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 11(1): 167 (1995).

Malawi. Nyika Plateau, 1960, *Holmes* 225 (K, SRGH).

***Disa nyikensis* H.P.Linder**

Terrestrial orchid; flowers pale mauve with darker spots, spur 4–6 mm long; montane grassland; 2,500 m. Endemic to the high mountains about the northern end of Lake Malawi (Malawi and Tanzania). Probably the high-altitude form of *Disa equestris* Rchb.f.

Source. *Flora zambesiaca* 11(1): 176 (1995).

Malawi. Nyika Plateau, Kasaramba View, 1969, *Pawek* 3307 (K).

Zambia. Nyika Plateau, 1962, *Fanshawe* 7221 (K); N. of Rest House, 1966, *Williamson* 223 (K, holo.).

***Disa ochrostachya* Rchb.f.**

Terrestrial orchid; flowers yellow, spur 7–12 mm long; widespread in the montane grasslands of sub-Saharan Africa; mostly 1,500–2,600 m.

Source. *Flora zambesiaca* 11(1): 162 (1995).

Malawi. Nyika Plateau, 1968, *Williamson* 1040 (K, SRGH, UZL); (cf. *D. ochrostachya*), Chosi Hill, 2000, *Burrows* sub *Kurzweil* 1977 (MAL).

Zambia. Nyika Plateau, 1964, *Benson* 396 (BR, K, LISC).

***Disa ornithantha* Schltr.**

Terrestrial orchid; flowers red and white, spur 9–11 mm long; in *Brachystegia* woodland and montane grassland, usually in wet grassland and dambos; 1,000–2,000 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 171 (1995).

Malawi. Nyika Plateau, near Lake Kaulime, 1961, *Robinson* 4487 (K, M, SRGH); Chelinda Bridge, 2000, *Kurzweil* 2017 (MAL).

Zambia. Nyika Plateau, 1969, *Williamson* 1397 (UZL).

***Disa perplexa* H.P.Linder**

Robust terrestrial orchid 0.4–0.5 m tall, inflorescence densely many-flowered; flowers white, faintly spotted, spur 16 mm long; in montane bogs; 1,900–2,300 m. Zimbabwe, Zambia, Malawi, Tanzania, Kenya, and Nigeria.

Malawi. Nyika National Park, in two bogs (la Croix *et al.* 1991: 123).

Disa praecox* (H.P.Linder) H.P.LinderHerschelia praecox* H.P.Linder

Terrestrial orchid; flowers white to blue, spur 3–5 mm long; short montane grassland; above 2,000 m. Endemic to the Nyika Plateau.

Source. *Flora zambesiaca* 11(1): 194 (1995).

Malawi. Nyika Plateau 1962, *Tyrer* 966 (BM, SRGH).

Zambia. Nyika Plateau, 1964, *Robinson* 6259 (K, SRGH); N. of Rest House, 1967, *Williamson* 312 (K, holo.).

Disa robusta* N.E.Br. ●Disa praestans* Kraenzl.; *Disa coccinea* Kraenzl.

Terrestrial orchid; flowers orange-red, spur 25–35 mm long; locally common in montane grassland; (1,000)2,000–3,200 m. Zambia (Nyika only), Malawi, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 11(1): 184 (1995).

Malawi. Juniper Forest Reserve, 2000, *Chikuni* 518 (MAL).

Zambia. Nyika Plateau, road to Rest House, 1959, *Richards* 10397 (K, SRGH).

No country given. Nyika Plateau, 1967, *Richards* 22625 (UZL).

***Disa rungweensis* Schltr.**

Terrestrial orchid; flowers greenish white, pink-mauve or brown, spur 2.5–3.2 mm long; in rocky outcrops, often in wet grassland in rock crevices. Malawi and Tanzania. Restricted to the high mountains at the northern end of Lake Malawi.

Source. *Flora zambesiaca* 11(1): 186 (1995).

Malawi. Nyika Plateau, Chelinda Rock, 1968, *Williamson* 363 (K, SRGH); Chelinda Bridge, 2000, *Maroyi sub Kurzweil* 2016 (MAL, UZL).

***Disa satyriopsis* Kraenzl.**

Disa ochrostachya Kraenzl. var. *latiseptala* G. Will.

Terrestrial orchid; flowers orange-red, spur 7.5–10 mm long; in montane grassland; 1,800–2,500 m, sometimes very common locally. Malawi, Burundi, and Tanzania.

Source. *Flora zambesiaca* 11(1): 163 (1995).

Malawi. Nyika Plateau, 1960, *Holmes* 201 (K, SRGH).

Zambia. Nyika Plateau, road to Zambian Rest House, 1968, *Ball* 1071 (SRGH); *ibid.*, 1968, *Williamson, Ball & Simon* 357 (SRGH).

***Disa saxicola* Schltr.**

Disa uliginosa Kraenzl.

Terrestrial orchid; flowers white with purple markings, spur 4–10 mm long; usually associated with rock outcrops and cliffs, often on moss-covered rock and on tree trunks in scrub forests; 1,000–2,800 m. Widespread in the southern half of Africa.

Source. *Flora zambesiaca* 11(1): 185 (1995).

Malawi. Nyika Plateau, Vipiri Rocks, 1976, *Phillips* 1253 (K); Chosi Hill, 2000, *Burrows sub Kurzweil* 1978 (MAL).

Zambia. Nyika Plateau, 1961, *Richards* 14393A (K); Chowo Rocks, 1967, *Williamson* 803 (UZL).

***Disa ukingensis* Schltr. ●**

Terrestrial orchid; flowers magenta, spur 4–6 mm long; montane short, dry, grassland; 2,100–2,800 m. Nyika Plateau (Zambia and Malawi) and S. Tanzania.

Source. *Flora zambesiaca* 11(1): 169 (1995).

Malawi. Nyika Plateau, 1977, *Grosvenor & Renz* 1116 (BOL, K, SRGH); Nyika National Park, Zungwara, 2000, *Kurzweil* 2009a (MAL).

Zambia. Nyika Plateau, 1966, *Williamson & Odgers* 281 (K, PRE, SRGH).

***Disa welwitschii* Rchb.f. subsp. *welwitschii* ●**

Disa calophylla Kraenzl.; *Disa ignea* Kraenzl.; *Disa hyacinthina* Kraenzl.

Terrestrial orchid; flowers red, spur 3.5–9 mm long; mostly recorded from damp grasslands, usually damp, between 900 and 2,400 m, common. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 164 (1995).

Malawi. Nyika Plateau, 1966, *Williamson* 226 (K, SRGH).

***Disa welwitschii* Rchb.f. subsp. *occultans* (Schltr.)**

H.P. Linder

Disa tanganyikensis Summerh.

Terrestrial orchid; flowers pink, spur 5–9 mm long; wet dambo grassland. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 164 (1995).

Malawi. Nyika National Park, without locality or collector (Mill 1979); Nyika Plateau, Chelinda Bridge, 1983, *la Croix* 407 (K).

***Disa zombica* N.E.Br. ●**

Disa nyassana Schltr.

Terrestrial orchid; flowers green with pink tinge and magenta, spur 4–7 mm long; montane grassland; 1,200–2,200 m. A very distinctive species. Zimbabwe, Zambia (Nyika), Malawi, Mozambique, Burundi, and Tanzania.

Source. *Flora zambesiaca* 11(1): 169 (1995).

Malawi. Nyika Plateau, 1977, *Pawek* 12481 (K); Dembo Bridge, 2000, *Johnson sub Kurzweil* 2001 (MAL, UZL).

Zambia. Nyika Plateau, 1966, *Williamson & Odgers* 295 (K, SRGH).

***Disperis anthoceros* Rchb.f. ❖**

Terrestrial orchid; flowers white with green or purplish markings, spur 12–20 mm long; in leaf litter in shade of evergreen forest, sometimes under *Pinus* or *Cupressus* in plantations; 1,100–2,300 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 234 (1995).

Malawi. Nyika National Park, without locality or collector (Mill 1979).

Zambia. Nyika National Park, Manyenjere Forest, 2,050 m, 1982, *Dowsett-*

Lemaire 343a (K); Chowo Forest, 1966, *Williamson & Odgers* 285 (K, SRGH).

***Disperis aphylla* Kraenzl. subsp. *bifolia* Verdc. ❖**

Terrestrial orchid; flowers white or pink, spur 3–4 mm long; shade of evergreen forests; 2,000 m. Malawi and Tanzania.

Source. *Flora zambesiaca* 11(1): 234 (1995).

Malawi. Nyika National Park, without locality or collector (Mill 1979).

Zambia. Nyika Plateau, Chowo Forest, 1968, *Williamson* 888 (K).

***Disperis bifida* P.J. Cribb**

Terrestrial orchid; flowers pink, spur 7–9 mm long; in leaf litter in deep shade of evergreen forest; 2,180 m. Endemic to the Nyika.

Source. *Flora zambesiaca* 11(1): 236 (1995).

Zambia. Nyika Plateau, between Rest House and Main Road junction, 2,180 m, 1982, *Dowsett-Lemaire* 347 (K).

Disperis bifida* x *D. dicerochila

Terrestrial orchid; flowers pink, spur 2 mm long; evergreen forest; 2,180 m. Endemic.

Source. *Flora zambesiaca* 11(1): 236 (1995).

Zambia. Nyika Plateau, in forest patch, 2,180 m, 1987, *la Croix* 973 (K, MAL).

***Disperis breviloba* Verdc.**

Terrestrial orchid; flowers pink with green-brown, spur about 7 mm long; *Brachystegia* woodland, open damp, and montane grassland, usually in shallow soil over rocks; 1,200–2,340 m. Endemic to the Nyika Plateau.

Source. *Flora zambesiaca* 11(1): 236 (1995).

Malawi. Nyika Plateau, 10 km from Chelinda, 2,340 m, 1968, *Williamson, Ball & Simon* 362 (K, SRGH).

***Disperis dicerochila* Summerh. ❖**

Terrestrial orchid; flowers pink; in leaf litter or on mossy logs in evergreen forest, sometimes in pine and cypress plantations; 1,700–2,300 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 239 (1995).

Malawi. Nyika National Park, Chelinda Rest Camp, 2000, *Kurzweil* 1983 (MAL, UZL); without locality or collector (Mill 1979).

Zambia. Nyika Plateau, forest patch near Zambian Rest House, 2,200 m, 1987, *la Croix* 974 (K, MAL); Chowo, 1966, *Williamson & Odgers* 277 (SRGH).

***Disperis kilimanjarica* Rendle ❖**

Epiphyte; flowers white, tinged with green and sometimes with mauve; occurring in montane or submontane forest on mossy branches and trunks of trees; 1,750–2,250 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 229 (1995).

Malawi. Nyika National Park, Zovochipolo, 2,210 m, 1984, *la Croix* 601 (K); N. of Lake Kaulime, 2000, *Willis & Luhanga* 105 (PRE).

Zambia. Nyika Plateau, Chowo Forest, 1968, *Williamson* 887 (K, UZL); without locality, 1966, *Williamson & Odgers* 270 (K, SRGH).

***Disperis mac-owanii* Bolus**

Terrestrial orchid; flowers white or cream with green and purple spotting; montane grassland, amongst rocks, and under shrubs; ca 2,000 m. In the *Flora zambesiaca* area, known only from this Nyika collection. Also in Tanzania, South Africa, and Swaziland.

Source. *Flora zambesiaca* 11(1): 243 (1995).

Malawi. Nyika National Park, road to Chikomanankazi, 2,225 m, 1982, *Dowsett-Lemaire* 350 (K).

***Disperis nemorosa* Rendle ❖**

Terrestrial orchid; flowers white or pink, spur about 10 mm long; deep shade in forest, often near streams; ca 2,000 m. Nyika (Zambia and Malawi), Tanzania, Uganda, and Kenya.

Source. *Flora zambesiaca* 11(1): 231 (1995)

Malawi. Nyika National Park, Kasyaula Forest, 2,000 m, 1982, *Dowsett-Lemaire* 351 (K).

Zambia. Nyika Plateau, Chowo Forest, 2,000 m, 1984, *la Croix* 600 (K); *ibid.*, 1966, *Williamson & Odgers* s.n. (K).

Disperis parvifolia Schltr.

Terrestrial orchid; flowers magenta-purple and green, spur 6–6.5 mm long; in sub-montane grassland; ca 1,675 m. Malawi (Nyika only), Cameroon, and Tanzania.

Source. *Flora zambesiaca* 11(1): 244 (1995).

Malawi. Nyika National Park, Mbuzinandi road, ca 1,675 m, 1983, *la Croix* 413 (K).

Disperis reichenbachiana Rchb.f.

Terrestrial orchid 100–200 mm tall; leaves 2 or 3, inflorescence with 1–3 flowers; flowers mauve-pink, spurs small, less than 1 mm; in leaf litter in shade of evergreen forest or riverine forest; 1,100–1,800 m. Widespread in tropical Africa.

Malawi. Nyika National Park, Chisanga Falls (*la Croix et al.* 1991: 160).

Disperis thomensis Summerh.

Terrestrial orchid; flowers white marked with green and purple; in evergreen and riverine forests, in leaf litter in deep shade and rock faces; 1,300–2,150 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 246 (1995).

Zambia. Nyika Plateau, Chowo Forest, 2,150 m, 1982, *Dowsett-Lemaire* 353 (K).

Epipactis africana Rendle ❖●

Terrestrial orchid; flowers yellow-green with purple veining on sepals, lip brown to red, spurless; in riverine forest, in deep shade in wet soil by streams; 1,300–1,980 m. Malawi, D.R.C., and E. Africa.

Source. *Flora zambesiaca* 11 (1): 14 (1995).

Malawi. Nyika Plateau, 8 km E. of Nganda, by tributary of Wovwe River, 1,980 m, 1972, *Brummitt, Munthali & Syngé* WC 126 (K, MAL, SRGH, EA, PRE, UPS); Wovwe Valley, 2000, *Kurzweil* 2048 (MAL).

Eulophia acutilabra Summerh.

Slender terrestrial orchid to 300 mm tall, inflorescence lax, of 3–8 flowers, sepals purple-brown with green margins, petals white, lip white with red-purple papillae and veins, spur 4 mm long; in *Brachystegia* woodland; 500–1,650 m. Zimbabwe, Zambia, Malawi, and D.R.C.

Malawi. Nyika National Park, Chisanga Falls (*la Croix et al.* 1991: 321).

Eulophia arenicola Schltr.

Terrestrial orchid; flowers with green sepals with purple flush and yellow-green petals and lip, spur 1.5–3 mm long; plateau grasslands, dambos, floodplain grassland, and montane dry grasslands, often after fire, often in sandy soil, also in rocky places under trees and in *Cryptosepalum* woodland on Kalahari sands; 1,500–2,300 m. Malawi, Botswana, Zambia, D.R.C., and Angola.

Source. *Flora zambesiaca* 11(2): 482 (1998).

Malawi. Nyika National Park, Chelinda Bridge, 2,300 m, 1987, *Scholfield* sub *la Croix* 1051 (K).

Eulophia coeloglossa Schltr.

Terrestrial orchid; flowers purple and pink, spur 4–8 mm long; dambos and marshes; 1,100–1,300 m. Zimbabwe, Malawi, Zambia, D.R.C., Angola, and Tanzania.

Source. UZL; *Flora zambesiaca* 11(2): 492 (1995).

Malawi. Nyika National Park, without locality or collector (*Mill* 1979); without locality, 1968, *Williamson* 1044 (UZL).

Eulophia cucullata (Afzel. ex Sw.) Steud.

Terrestrial orchid, variable in size, 0.35–1 m; leaves 2–3, erect; flowers few, whitish, greenish to (on Nyika) a dark purple; in open miombo woodland, grassland, and dryish dambos; 480–2,000 m. Widespread in tropical Africa.

Source. *Williamson* (1977: 172); *la Croix et al.* (1991: 335).

Malawi. Nyika, without locality (*la Croix et al.* 1991).

Eulophia euantha Schltr.

Terrestrial orchid 200–350 mm tall, inflorescence of 5–12 flowers; flowers pink-mauve with dark purple blotch on lip. Spur horizontal, 3–4 mm long; in *Brachystegia* woodland; 1,220–1,600 m. Malawi, Zambia, Angola,

D.R.C., and Tanzania.

Malawi. Nyika National Park, near Thazima (*la Croix et al.* 1991: 305).

Eulophia fredericii (Rchb.f.) A.V.Hall

Eulophia roseolabia (Schltr.) Butzin

Terrestrial orchid; flowers with greenish or purple-brown sepals and yellow petals and lip, spur saccate; in *Brachystegia* and mixed deciduous woodlands at medium altitudes, often in rocky areas on hillsides; 700–1,500 m. South Africa to Angola, Zambia, and Tanzania.

Source. *Flora zambesiaca* 11(2): 481 (1998).

Malawi. Nyika National Park, eastern foothills of Nkhonjera Hill, 1,200 m, 1986, *Dowsett-Lemaire* 1199 (K).

Eulophia hians Spreng. var. **nutans** (Sond.) S.A.Thomas

Eulophia nutans Sond.; *Eulophia crinita* Rolfe; *Eulophia ukingensis* Schltr.

Terrestrial orchid; flowers with green sepals and white to yellow-green petals and lip, spur 2–4 mm long; short dry grassland on sandy soils at lower altitudes, montane grassland on rocky outcrops, dambo grassland, and high-rainfall woodland on sandy soil, also on bare ground on ‘chrome hills’; 900–2,200 m. Widespread in Africa.

Source. *Flora zambesiaca* 11(2): 476 (1998).

Malawi. Nyika Plateau, Chelinda, above dambo by Dam #2, 2,100 m, 1986, *Cribb* 6001 (K); dambo on road to Chelinda, 1968, *Williamson, Ball & Simon* 366 (K, SRGH).

Eulophia horsfallii (Bateman) Summerh.

Lissochilus sceptrum Schltr.; *Lissochilus eleogenus* Schltr.

Terrestrial orchid; flowers with olive-green to purple-brown sepals and pink petals and lip, spur 4–10 mm long; swampy areas in riverine and evergreen forest, streamside vegetation, dambos; to 1,900 m. Widespread in Africa.

Malawi. Nyika Plateau, Juniper Forest Reserve, 2000, *Chikuni* 523 (MAL).

Eulophia milnei Rchb.f.

Very slender terrestrial orchid 250–500 mm tall; leaves grass-like, inflorescence lax, of 5–15 flowers; flowers pendulous, bright yellow, spur 2–2.5 mm long; in wet bogs and dambos; 1,100–2,300 m. South Africa northwards, widespread in tropical Africa.

Malawi. Nyika National Park, in various montane bogs (*la Croix et al.* 1991: 309).

Eulophia odontoglossa Rchb.f.

Eulophia gracilliscapa Schltr.; *Eulophia missionis* Rendle; *Eulophia johnstonii* Rolfe; *Eulophia panganiana* Kraenzl.

Terrestrial orchid; flowers bright yellow, spur 1–3 mm long; montane or submontane grassland, dambos, and seasonally wet areas on plateau and coastal grasslands, in sandy soils and rocky areas; up to 2,100 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(2): 511 (1998).

Malawi. Nyika National Park, without locality or collector (*Mill* 1979).

Zambia. Nyika Plateau, road to Rest House, 2,100 m, 1959, *Richards* 10389 (K); grassland, 1968, *Williamson, Ball & Simon* 805 (SRGH).

Eulophia orthoplectra (Rchb.f.) Summerh.

Robust terrestrial orchid 0.6–1 m tall, inflorescence lax, to 20-flowered, stalk purplish, sepals purple-brown, petals and lip bright yellow with red veins, spur purplish, 7 mm long; usually in *Brachystegia* woodland, or in grassland; 1,050–1,920 m. Widespread in tropical Africa.

Malawi. Nyika National Park, local in northern part (*la Croix et al.* 1991: 339).

Eulophia ovalis Lindl. var. **bainesii** (Rolfe) P.J.Cribb & la Croix ❖

Eulophia monticola Schltr.

Terrestrial orchid; flowers green and yellow, lip straw-yellow, spur 1–5.6 mm long; in montane grassland and woodland on rocky hillsides; 1,000–2,135 m. South Africa, Zimbabwe, Malawi, Kenya, and Tanzania.

Source. *Flora zambesiaca* 11(2): 472 (1998).

Malawi. Nyika National Park, Mbuzinandi road, ca 1,970 m, 1983, *la Croix* 414 (K).

Epipactis africana
Del. Graham Williamson



Eulophia seleensis
Del. Graham Williamson



Eulophia ovalis var. *bainesii*
Del. Graham Williamson

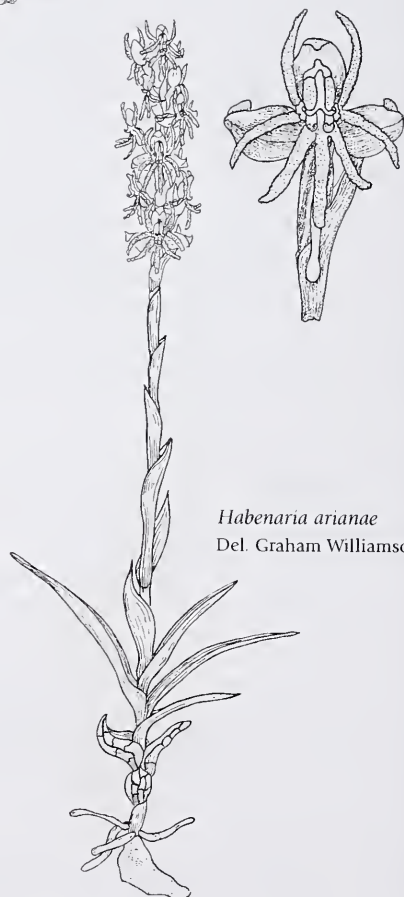


Habenaria goetzeana
Del. Graham Williamson



gh
1968

Habenaria arianæ
Del. Graham Williamson



Zambia. Nyika Plateau, 2,100 m, 1959, *Richards 10399* (K); grassland, 1966, *Williamson 236* (K, SRGH).

***Eulophia rara* Schltr.**

Terrestrial orchid; flowers very variable in colour, spur 1–2 mm long; woodlands, including high-rainfall miombo, drier plateau miombo, and mountain slope miombo, also in mixed *Brachystegia*–Mopane woodland; 550–1,700 m. Malawi, Zambia, Zimbabwe, Mozambique, and Tanzania.

Source. *Flora zambesiaca* 11(2): 507 (1998).

Malawi. Nyika Plateau, ca 24 km N. of M1, 1,700 m, 1977, *Pawek 13323* (K, MAL, MO).

***Eulophia schweinfurthii* Kraenzl.**

Eulophia involuta Summerh.; *Eulophia compta* Summerh.; *Lissochilus smithii* Rolfe; *Lissochilus elegantulus* Schltr.

Terrestrial orchid; flowers purple-red with yellow petals and lip; in hot low to medium altitude river valleys, in open woodland, on pan margins in Mopane woodland, on Kalahari Sand, clay, and sandy soils; 300–1,950 m. Widespread in tropical Africa

Source. *Flora zambesiaca* 11(2): 477 (1998).

Malawi. Nyika Plateau, Sawi Valley, 1,950 m, 1972, *Synge WC456* (K).

***Eulophia seleensis* (De Wild.) Butzin ❖**

Eulophia tenuiscapa Schltr.; *Eulophia recurvata* G.Will.

Terrestrial orchid; flowers green-brown or yellow-green with white petals and lip, spur 3–4 mm long; woodland and miombo; 800–1,650 m. Widespread in central and eastern Africa.

Source. *Flora zambesiaca* 11(2): 531 (1998).

Zambia. Nyika Plateau, foothill forest, 1966, *Williamson 224* (K).

***Eulophia streptopetala* Lindl.**

Eulophia manganensis Rolfe; *Lissochilus shirensis* Rendle; *Lissochilus carsonii* Rolfe

Terrestrial orchid; flowers green and yellow, spur 2–4 mm long; submontane and dambo grasslands, mixed deciduous woodlands, and forest margins, often on rocky outcrops, sometimes on termite mounds; 800–2,300 m. Widespread in Africa.

Source. *Flora zambesiaca* 11(2): 465 (1998).

Malawi. Nyika National Park, ridge above Mondwe Valley, 1972, *Synge 259* (K).

Zambia. Nyika Plateau, near Zambian Rest House, 2,250 m, 1967, *Richards 22460* (K).

***Eulophia subsaprophytica* Schltr.**

Terrestrial orchid to 700 mm tall; leaves reduced to 3-bract like at the base, scale-like at the nodes, inflorescence lax, to 20-flowered, sepals brown/purple, petals yellow/purple, lip yellow at the base, spur 5 mm long; in *Brachystegia* woodland, often on stony sloping ground; 800–1,600 m. Malawi, Zambia, and Zimbabwe. Possibly a saprophyte.

Malawi. Nyika National Park, N. side of Wovwe Valley (la Croix *et al.* 1991: 324).

***Eulophia thomsonii* Rolfe**

Terrestrial orchid; flowers creamy-white, spur 1–3 mm long; in montane grassland; 1,550–2,380 m. Zambia, Malawi, and Tanzania.

Source. *Flora zambesiaca* 11(2): 505 (1998).

Malawi. Nyika National Park, near Chelinda Camp, 2,200 m, 1958, *Robson & Angus 372* (K).

Zambia. Nyika Plateau, near Zambian Rest House, 1955, *Lees 60* (K); grassland N. of Rest House, 1965, *Williamson & Kirby 148* (SRGH).

***Habenaria anaphysema* Rchb.f.**

Slender terrestrial orchid 550–750 mm tall, inflorescence of up to 20 flowers; flowers green with an unpleasant smell in the evening, spur 14–15 mm long; 600–2,250 m. Zimbabwe, Malawi, Zambia, Angola, and Tanzania.

Malawi. Nyika National Park, without locality (la Croix *et al.* 1991: 68).

***Habenaria arianæ* Geerinck ❖**

Habenaria williamsonii Cribb

Terrestrial orchid; flowers light green, spur 5–7 mm long; in wet grassland and seepage areas with shallow soil overlying rock; 600–2,300 m. Malawi (Nyika only), Burundi, D.R.C., Angola, and Tanzania.

Source. *Flora zambesiaca* 11(1): 88 (1995).

Malawi. Nyika Plateau, ca 2,300 m, 1966, *Williamson & Odgers 283* (K, SRGH); Chelinda Bridge, 1977, *Grosvenor & Renz 1213* (K, SRGH); 2000, *Kurzweil 2019* (MAL).

***Habenaria clavata* (Lindl.) Rchb.f.**

Terrestrial orchid; flowers pale green or yellow-green, spur 30–50 mm long; in montane grassland, woodland; 1,000–1,700 m. Widespread in tropical Africa.

Source. UZL.

Malawi. Nyika National Park, without locality or collector (Mill 1979).

Zambia. Above Chire River, 1967, *Williamson s.n.* (UZL).

***Habenaria cornuta* Lindl.**

Habenaria subcornuta Schltr.; *Habenaria orthocaulis* Schltr.

Terrestrial orchid; flowers green or yellow-green, lip sometimes white, spur 14–28 mm long; in woodland and montane grassland, marshy ground, and dambos; 1,000–2,300 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 117 (1995).

Malawi. Nyika Plateau, edge of Juniper Forest, ca 2,100 m, 1977, *Grosvenor & Renz 1205* (K, SRGH); Chosi, 2000, *Kurzweil 1970* (MAL); grassland, 1967, *Williamson 368* (UZL).

Zambia. Nyika Plateau, N. bank of Chire River, 1966, *Williamson 292* (K, SRGH).

***Habenaria debeerstiana* Kraenzl.**

Slender terrestrial orchid to ca 600 mm high, with 2 round basal leaves and ca 7 sheathing leaves, inflorescence of up to 20 scented flowers, green and white, spur 7–10 mm long; in *Brachystegia* woodland, often plentiful; 1,300–1,700 m. Malawi, Zimbabwe, Zambia, and D.R.C.

Malawi. Nyika National Park, near Thazima; Nyika approach (la Croix *et al.* 1991: 59).

***Habenaria diselloides* Schltr. ●**

Terrestrial orchid; flowers yellow-green, spur 4–7 mm long; in seepage areas over rocks, in old gravel workings; 1,700–2,250 m. Malawi and Tanzania.

Source. *Flora zambesiaca* 11(1): 90 (1995).

Malawi. Nyika National Park, Chelinda Bridge, 2,250 m, 1987, *la Croix 986* (K, MAL); Chisanga Falls, 2000, *Johnson sub Kurzweil 1987* (MAL, UZL); central grassland, 1968, *Williamson, Ball & Simon 387* (K).

***Habenaria filicornis* Lindl.**

Habenaria chlorotica Rchb.f.

Terrestrial orchid; flowers green, spur 20–35 mm long; in grassland and marshes, 1,150–2,300 m. Widespread in tropical Africa.

Source. UZL.

Malawi. Nyika National Park, without locality or collector (Mill 1979).

Zambia. 1968, *Williamson 996* (UZL).

***Habenaria goetzeana* Kraenzl. ❖**

Kryptostoma goetzeana (Kraenzl.) Geerinck

Terrestrial orchid; flowers green, spur 20–30 mm long; in rough grassland and woodland, often in clearings, on shallow soil over rocks, and edges of woodland; 1,500–1,650 m. Malawi, Zambia, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 11(1): 124 (1995).

Malawi. Nyika National Park, ca 3 km past Thazima, 1,650 m, 1987, *la Croix 961* (K).

Zambia. Nyika foothills woodland, 1968, *Williamson, Ball & Simon 378* (SRGH).

***Habenaria gonatosiphon* Summerh.**

Terrestrial orchid 400–500, inflorescence of 3–4 flowers, greenish white, spur ca 60 mm long; in bogs or occasionally in *Brachystegia* woodland; 1,300–2,285 m. Malawi, Zambia, and Tanzania.

Malawi. Nyika National Park, Dembo Bridge bog (la Croix *et al.* 1991: 83).

Habenaria hirsutitrunci G.Will.

Terrestrial orchid; flowers green, spur 16–23 mm long; in montane grassland; 1,500–2,200 m. Malawi and Zambia.

Source. *Flora zambesiaca* 11(1): 94 (1995); *Plant Systematics and Evolution* 134: 55 (1980).

Malawi. Nyika National Park, Jalawe Hill, ca 2,100 m, 1984, *la Croix* 606 (K); Zungwara, 2000, *Kurzweil* 2011 (MAL).

Habenaria hologlossa Summerh.

Terrestrial orchid; flowers green, spur (3) 9–12 mm long; wet montane grassland; 1,900–2,200 m. Malawi (Nyika only), Kenya, and Angola.

Source. *Flora zambesiaca* 11(1): 68 (1995).

Malawi. Nyika National Park, Katizi Valley, ca 1,900 m, 1982, *Elias* 10 (K).

Habenaria insolita Summerh.

Terrestrial orchid; flowers yellow-green, spur ca 14 mm long; in long grass at edge of woodland; 1,800–1,900 m. Malawi and Tanzania. Apparently a rare species.

Source. *Flora zambesiaca* 11(1): 71 (1995); *Kew Bulletin* 16: 260 (1962).

Malawi. Nyika National Park, ca 8 km N. of Thazima, ca 1,800 m, 1987, *la Croix* 1029 (K).

Habenaria kilimanjari Rchb.f.

Habenaria martialis Rchb.f.; *Habenaria ubligii* Kraenzl.; *Habenaria lutaria* Schltr.

Terrestrial orchid; flowers white, spur 13–18 mm long; in damp grassland, sandy soil in marsh; 900–2,400 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 98 (1995).

Malawi. Nyika Plateau, Mwenembwe (Mwanemba), 2,400 m, 1903, *McClounie* 57 (K).

Habenaria kyimbilae Schltr.

Habenaria furcicipetala Schltr.

Terrestrial orchid; flowers green, spur 9–12.5 mm long; in montane grassland and *Brachystegia* woodland; 1,300–2,300 m. Malawi, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 11(1): 98 (1995).

Malawi. Nyika National Park, Dembo Bridge, 2000, *Johnson* sub *Kurzweil* 1998 (NBG [fragment]); Juniper Forest Reserve, 2000, *Chikuni* 517 (MAL).

Habenaria laurentii De Wild.

Terrestrial orchid 500–750 mm tall, inflorescence of 5–15 flowers, green and white, spur 60 mm long, sometimes tucked into the bract; in *Brachystegia* woodland, often in rocky places, and in montane grassland; 1,100–2,150 m. Zimbabwe northwards to W. Africa and Kenya.

Malawi. Nyika National Park, Dembo Bridge; Katizi Valley; near Thazima (*la Croix* et al. 1991: 85).

Habenaria leucoceras Schltr.

Terrestrial orchid; flowers greenish white, spur 15–18.5 mm long; in montane grassland; 1,500–2,400 m. Zambia (Nyika only), Malawi, and Tanzania.

Source. *Flora zambesiaca* 11(1): 99 (1995).

Malawi. Nyika National Park, grassland near Dam 3, ca 2,100 m, 1984, *la Croix* 594 (K); Wovwe Valley, 2000, *Kurzweil* 2052 (MAL).

Zambia. Nyika National Park, ca 0.5 km S.W. of Zambian Rest House, 1986, *Philcox, Pope & Chisumpa* 9976 (K).

Habenaria leucotricha Schltr. var. *leucotricha*

Terrestrial orchid; flowers white, spur 12–16.5 mm long; in woodland, often on rocky soil; 900–1,200 m. Zambia, Malawi, and Tanzania. This record is perhaps not strictly on the Nyika Plateau.

Source. *Flora zambesiaca* 11(1): 140 (1995).

Malawi. Rumph District, Livingstonia Escarpment, 900 m, 1986, *la Croix* 1015 (K).

Habenaria lithophila Schltr.

Terrestrial orchid; flowers green or yellow-green, spur 8–17 mm long; in stony montane grassland; ca 2,400 m. Malawi, D.R.C., South Africa, and Tanzania.

Source. *Flora zambesiaca* 11(1): 137 (1995).

Malawi. Nyika Plateau, ca 2,400 m, 1960, *Holmes* 234 (K, SRGH); without locality, 1968, *Williamson, Ball & Simon* 375 (UZL).

Habenaria livingstoniana la Croix & P.J.Cribb

Terrestrial orchid; flowers white, spur 15 mm long; in stony soil on slope in *Brachystegia* woodland; 950–1,000 m. Apparently endemic, known only from the eastern escarpment of the Nyika Plateau.

Source. *Flora zambesiaca* 11(1): 137 (1995); *Kew Bulletin* 48: 359 (1993).

Malawi. Rumph District, Livingstonia Escarpment, 950 m, 1967, *I. & E. la Croix* 1015 (K, MAL).

Habenaria macrura Kraenzl.

Habenaria pentaglossa Kraenzl.

Terrestrial orchid; flowers white, spur 9–20 mm long; in montane grassland and *Brachystegia* woodland on stony soil; 1,200–2,400 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 135 (1995).

Malawi. Nyika National Park, without locality or collector (Mill 1979).

Zambia. Nyika Plateau, 2,100 m, 1959, *Richards* 10431 (K); grassland, 1968, *Williamson, Ball & Simon* 814 (SRGH).

Habenaria mechowii Rchb.f.

Robust terrestrial orchid with 2 fleshy basal leaves, inflorescence of 4–9 green flowers, spur 45–50 mm long; in damp grassland and dambo margins; 1,330–2,100 m. Malawi, Zambia, Angola, D.R.C., and Tanzania.

Malawi. Nyika National Park, Katizi Valley (*la Croix* et al. 1991: 94).

Habenaria njamnjamica Kraenzl.

Habenaria parvifolia Summerh.

Terrestrial orchid; flowers green or yellow-green, spur 10–20 mm long; in *Brachystegia* woodland and montane grassland; 1,180–2,250 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 82 (1995).

Malawi. Nyika National Park, Thazima, 1983, *Elias* 3 (K).

Habenaria nyikensis G.Will. ✧

Terrestrial orchid; flowers green, spur 9–10 mm long; in short open montane grassland and *Brachystegia* woodland, usually on stony soil; 1,660–2,250 m. Apparently endemic to the plateaux of northern Malawi (also found on the S. Viphya mountains).

Source. *Flora zambesiaca* 11(1): 144 (1995); *Plant Systematics and Evolution* 134: 59 (1980).

Malawi. Nyika Plateau, close to main road ca 8 km S. of Lake Kaulime, 1968, *Williamson, Ball & Simon* 375 (K, holo., SRGH, iso.).

Habenaria odorata Schltr.

Terrestrial orchid; flowers green and white, spur 2.5–3.5 (6.5) mm long; in grassland and montane grassland; up to 2,200 m. Malawi, Zambia, and Tanzania.

Source. *Flora zambesiaca* 11(1): 129 (1995).

Malawi. Nyika National Park, Zovochipolo, among rocks, 2,200 m, 1983, *la Croix* 411 (K).

Habenaria papyracea Schltr.

Terrestrial orchid; flowers green, spur 7–20 mm long; in *Brachystegia* woodland, mixed woodland, on rocky hillsides, and among rocks; 1,250–1,800 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 83 (1995).

Malawi. Nyika Plateau, Vitumbi, ca 1,800 m, 1976, *Phillips* 1498 (K, MO).

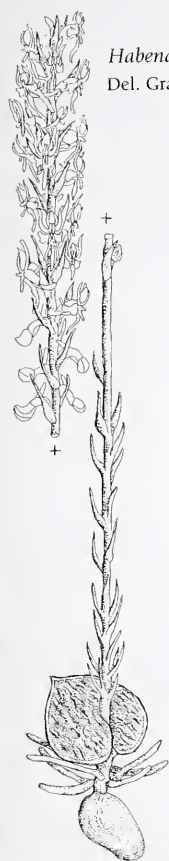
Habenaria petitiiana (A.Rich.) T.Durand & Schinz

Platanthera volkensiana Kraenzl.

Terrestrial orchid; flowers green, spur 1–1.5 mm long; in evergreen forest, in dense shade; 1,250–2,300 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 69 (1995).

Malawi. Nyika National Park, forest patch on road to Kasaramba, ca 2,300 m, 1987, *la Croix & Meredith* 1028 (K, MAL); without locality, 1966, *Williamson & Odgers* 253 (K).



Habenaria nyikensis
Del. Graham Williamson



Habenaria pubidens
Del. Graham Williamson



Holothrix papillosa
Del. Graham Williamson



Disa longilabris
Del. Graham Williamson



Habenaria trachypetala
Del. Graham Williamson

Habenaria petraea Renz & Grosvenor

Terrestrial orchid; flowers green, spur 12.5–20 mm long; in damp areas in montane grassland, edge of forest or woodland; 1,300–2,380 m. Northern Malawi; a Nyika near-endemic.

Source. *Flora zambesiaca* 11(1): 102 (1995); *Candollea* 34: 359, 360 (1979).

Malawi. Nyika Plateau, S.W. of Chelinda Camp near top of Mt. Chosi, 2,380 m, 1977, Renz & Grosvenor 1104 (K, SRGH); Chelinda Rest Camp, 2000, Kurzweil 1981 (LMA, MAL, PRE, SRGH, UZL).

Zambia. Nyika Plateau, Chowo Rocks, 1967, Williamson & Odgers 273 (K).

Habenaria praestans Rendle var. **praestans**

Habenaria ctenophora Schltr.

Terrestrial orchid; flowers green and white, spur 12–22 mm long; in montane grassland, woodland, forest margins, stream banks; 1,000–2,400 m. Zimbabwe, Zambia, Malawi, D.R.C., Rwanda, and E. Africa.

Source. *Flora zambesiaca* 11(1): 75 (1995).

Malawi. Nyika National Park, Juniper Forest Reserve, 2000, Kurzweil 2056 (MAL).

Zambia. Nyika Plateau, near Rest House, 1964, Benson NR 476 (K).

Habenaria pubidens P.J.Cribb ❖

Terrestrial orchid; flowers green, spur 15–20 mm long; in deep shade in evergreen forest, forming colonies; 1,700–2,450 m. Near-endemic; also in Misuku Hills. Type specimen from Nyika.

Source. *Flora zambesiaca* 11(1): 84 (1995); *Kew Bulletin* 32: 146 (1977).

Malawi. Nyika National Park, Zovochipolo forest patches, 2,225 m, 1982, Dowsett-Lemaire 339 (K).

Zambia. Nyika Plateau, Chowo Forest, 1967, Williamson & Odgers 280 (K, holo., SRGH).

Habenaria retinervis Summerh.

Robust terrestrial orchid 550–800 mm tall, inflorescence of up to 20 flowers, green, spur 30–32 mm long; in *Brachystegia* woodland; 1,300–2,000 m. Zimbabwe, Zambia, Malawi, D.R.C., and Tanzania.

Malawi. Nyika National Park, Thazima; between Olera and Nkhonjera (le Croix et al. 1991: 77).

Habenaria riparia Renz & Grosvenor

Terrestrial orchid; flowers green, spur 13–19 mm long; in wet grass near stream; 2,150 m. Endemic to the Nyika Plateau.

Source. *Flora zambesiaca* 11(1): 103 (1995); *Candollea* 34: 363, 365 (1979).

Malawi. Nyika Plateau, Dembo Bridge, 6 km E. of Chelinda Camp, 2,150 m, 1977, Renz & Grosvenor 1180 (K, SRGH, holo.); grassland N. of Lake Kaulime, 2000, Willis & Luhanga 124 (MAL, PRE, UZL).

Habenaria schimperiana A.Rich.

Robust terrestrial orchid 700–800 mm tall, inflorescence of 15–25 flowers, green with some white, spur 10–15 mm long; in damp and bogs, often forming extensive colonies; 1,000–2,300 m. Eastern Africa, from South Africa to Ethiopia and Sudan.

Malawi. Nyika National Park, widespread (le Croix et al. 1991: 78).

Habenaria splendens Rendle

Robust terrestrial orchid to 700 mm tall, inflorescence of 20–30 flowers, sepals green, petals and lip white, spur pendent, 50 mm long; amongst grass at edge of riverine forest; 1,270–2,200 m. Zambia and Malawi northwards to Ethiopia.

Malawi. Nyika National Park, Zungwara and Thazima (le Croix et al. 1991: 59).

Habenaria stenorhynchos Schltr.

Habenaria dactylostigma Schltr.

Terrestrial orchid; flowers white with green sepals, spur 8–10 mm long; in damp and boggy grassland; 1,280–2,300 m. Malawi, Zambia, Zimbabwe, Angola, South Africa, and Tanzania.

Source. *Flora zambesiaca* 11(1): 123 (1995).

Malawi. Nyika National Park, Chelinda Rock dambo, ca 2,250 m, 1968, Williamson, Ball & Simon 813 (K, SRGH, UZL).

Habenaria tentaculigera Rchb.f.

Kryptostoma tentaculigera (Rchb.f.) Geerinck; *Habenaria ludens* Kraenzl.

Terrestrial orchid; flowers green or yellow-green, spur 20–22 mm long; in marshy grassland, seepage areas among rocks, and in *Brachystegia* woodland; 1,000–2,250 m. Zimbabwe, Malawi, Zambia, D.R.C., Angola, and Tanzania.

Source. *Flora zambesiaca* 11(1): 124 (1995).

Malawi. Nyika National Park, Chelinda Bridge, 2,250 m, 1974, Pawek 7892B (K, UC).

Zambia. Nyika Plateau, 2,200 m, 1966, Williamson 241 (K, SRGH).

No country given. 1968, Williamson 819 (UZL).

Habenaria tenuispica Rendle

Terrestrial orchid; flowers green, spur 4–6 mm long; in montane bog; 2,200–2,300 m. Malawi, D.R.C., Uganda, Kenya, and Tanzania.

Source. *Flora zambesiaca* 11(1): 68 (1995).

Malawi. Nyika National Park, 1966, Williamson 235 (K).

Habenaria trachypetala Kraenzl. ❖●

Habenaria rhombocorys Schltr.

Terrestrial orchid; flowers green, spur 15–22 mm long; in evergreen forest margins, montane grassland, *Brachystegia* woodland, and tall grass at edge of damp; 1,330–2,100 m. Zimbabwe, Zambia, Malawi, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 11(1): 78 (1995).

Malawi. Nyika National Park, Juniper Forest Reserve, 2000, Kurzweil 2068 (MAL, PRE, SRGH, UZL); Mpopoti Peak, 2000, Mwanyambo 549 (MAL).

Zambia. Below Nyika, 1966, Williamson & Odgers 300 (SRGH).

Habenaria uhehensis Schltr.

Habenaria lurida Schltr.; *Habenaria tenuifolia* Summerh.; *Habenaria modica* Summerh.

Terrestrial orchid; flowers green, spur 8–20 mm long; in woodland and grassland; 600–2,285 m. Malawi, Zambia, Zimbabwe, D.R.C., Angola, and Tanzania.

Source. *Flora zambesiaca* 11(1): 87 (1995).

Malawi. Nyika National Park, Jalawe Hill, 2,250 m, 1984, la Croix 607 (K).

Habenaria unicalcar Summerh.

Slender terrestrial orchid 400–500 mm tall, inflorescence of 15–many flowers, pale green, spur 9–12 mm long; in *Brachystegia* or mixed woodland, usually on sandy soil; 1,000–1,680 m. Zimbabwe, Zambia, Malawi, and Tanzania.

Malawi. Nyika National Park, near Thazima (la Croix et al. 1991: 67).

Habenaria verdickii (De Wild.) Schltr.

Habenaria cordifolia Summerh.

Terrestrial orchid; flowers white or yellow-green, spur 10–18 mm long; in grassland, dry dambo edges, and woodland, sometimes on rocky outcrops; 1,100–2,200 m. Zimbabwe, Malawi, Zambia, D.R.C., and Angola.

Source. *Flora zambesiaca* 11(1): 145 (1995); *Kew Bull.* 17: 526 (1964).

Malawi. Nyika National Park, Zovochipolo grassland, 2,210 m, 1985, Dowsett-Lemaire 273 (K).

Habenaria welwitschii Rchb.f.

Terrestrial orchid 170–300 mm tall, inflorescence of 10–30 flowers, green with whitish petals, spur 14–15 mm long; in upland grassland; 1,300–2,225 m. Malawi, Mozambique, Angola, Rwanda, Uganda, and Tanzania.

Malawi. Nyika National Park, Zovochipolo (la Croix et al. 1991: 80).

Habenaria xanthochlora Schltr.

Terrestrial orchid; flowers green outside, yellow inside, spur 5–6 mm long; montane grassland; 2,130–2,350 m. Nyika Plateau (Zambia and Malawi) and Tanzania.

Source. *Flora zambesiaca* 11(1): 68 (1995).

Malawi. Nyika National Park, S. of Chelinda Camp on road to Chosi, ca 2,250 m, 1977, Grosvenor & Renz 1115 (K, SRGH); Nganda Hill, 2000, Burrows sub Kurzweil 2032 (MAL).

Zambia. Nyika Plateau near Rest House, 1967, *Williamson & Odgers* 266 (K, SRGH).

Habenaria zambesina Rchb.f.

Robust terrestrial orchid 0.8–1 m tall, inflorescence densely many-flowered; flowers white, soon aging brownish, spur slender, pendent, 75–90 mm long; in dambos and damp grassland; 575–1,650 m. Throughout tropical Africa.

Malawi. Nyika National Park, near Thazima (la Croix *et al.* 1991: 57).

Holothrix buchananii Schltr.

Terrestrial orchid; flowers white with purple lines on the lip, sepals green, spur 2–3 mm long; in montane grassland; 1,900–2,300 m. Malawi and Tanzania.

Source. *Flora zambesiaca* 11(1): 36 (1995).

Malawi. Nyika Plateau, on road to Kasaramba, 1970, *Brummitt 10684* (K, MAL); Chosi Hill, 2000, *Kurzweil 1973* (MAL).

Holothrix longiflora Rolfe

Terrestrial orchid; flowers white, spur 3–4 mm long; woodland, rock crevices, montane grassland; 1,650–1,900 m. Malawi, Zambia, Angola, and Tanzania.

Malawi. Nyika Plateau, without locality, 2000, *Thera 3107* (MAL); near Fingira Rock (la Croix *et al.* 1991: 39); Fingira Rock, 2000, *Willis & Luhanga 231* (MAL, PRE).

Holothrix nyasae Rolfe

Terrestrial orchid; flowers white or yellow, spur 2–2.5 mm long; short upland grassland; 200–2,700 m. Tanzania. Not recorded in *Flora zambesiaca*; possibly incorrectly identified.

Source. UZL.

Zambia. Nyika Plateau, grassland, 1968, *Williamson 1391* (UZL).

Holothrix papillosa Summerh. ✧

Holothrix brachycheira Summerh.

Terrestrial orchid; flowers white, sepals green, spur 1.5–3 mm long; in montane grassland, *Brachystegia* woodland; 1,650–2,300 m. Malawi, Zambia, and Tanzania.

Source. *Flora zambesiaca* 11(1): 38 (1995); la Croix *et al.* (1991: 40).

Malawi. Nyika Plateau, near Nganda Peak, 1975, *Pawek 9277* (K, MO, UC); Chosi Hill, 2000, *Kurzweil 1974* (MAL, PRE, SRGH, UZL).

Zambia. Nyika National Park, ca 0.5 km S.W. of Zambian Rest House, 1986, *Philcox, Pope & Chisumpa 9975* (K); grassland near Rest House, 1966, *Williamson & Odgers 265* (K, SRGH).

Holothrix pleistodactyla Kraenzl. ✧

Holothrix rorida G. Will.

Terrestrial orchid; flowers cream to pale yellow, spur 1.7–3 mm long; in dry montane grassland, after burning; 2,130–2,300 m. Malawi and Tanzania.

Source. *Flora zambesiaca* 11(1): 35 (1995).

Malawi. Nyika National Park, Chelinda Bridge, 1969, *Pawek 2827* (K, MO); *ibid.*, 1968, *Williamson 395* (K, SRGH).

Holothrix puberula Rendle

Terrestrial orchid, 50–110 mm tall; flowers lilac-purple and green, spur 4 mm long; in *Brachystegia* woodland, in sparse grass on shallow soil overlying rock, open rocky slopes; ca 1,660 m. Malawi, Zambia, E. Africa, and Ethiopia.

Source. *Flora zambesiaca* 11(1): 35 (1995).

Malawi. Nyika National Park, ca 4 km N. of Thazima, 1987, *la Croix 962* (K).

Holothrix tridactylites Summerh.

Terrestrial orchid; flowers white, sometimes tinged lilac, spur 3–4 mm long; in dry montane grassland, usually recently burnt; 2,050–2,300 m. Nyika Plateau (Zambia and Malawi) and Tanzania.

Source. *Flora zambesiaca* 11(1): 40 (1995).

Malawi. Nyika National Park, Chelinda Hill, 1987, *la Croix 1049* (K, MAL).

Zambia. Nyika National Park, near Kasoma Forest, 1981, *Dowsett-Lemaire 346* (K); S. of Rest House, 1968, *Williamson 394* (UZL).

Liparis bowkeri Harv. ✧

Liparis neglecta Schltr.

Terrestrial, epilithic or epiphytic orchid; flowers green or yellow-green; in riverine forest, high-rainfall *Brachystegia* woodland, under rocks, and on mossy rocks and fallen trunks in shade; 1,100–2,200 m. Very variable in size. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 277 (1995); *Fl. Afr. Centrale* 1: 277 (1984).

Malawi. Nyika National Park, Wovwe Valley, 2000, *Kurzweil 2044* (MAL); without locality or collector (Mill 1979).

Zambia. Nyika Plateau, in forest on rocks, 1966, *Williamson 240* (K).

Liparis mulindana Schltr. ✧

Terrestrial orchid; flowers dull reddish and green; in *Brachystegia* woodland, often on stony hillsides; 1,100–1,650 m. Malawi, Zambia, Zimbabwe, D.R.C., Burundi, and Tanzania.

Source. *Flora zambesiaca* 11(1): 279 (1995); *F.T. E.A. Orchidaceae* 2: 294 (1984).

Malawi. Nyika National Park, ca 5 km N. of Thazima, 1,650 m, 1987, *la Croix 963* (K).

Zambia. Nyika Plateau, S. of Rest House, 1968, *Williamson, Ball & Simon 377* (SRGH).

Liparis nervosa (Thunb.) Lindl.

Terrestrial orchid 200–400 mm tall; leaves 2–3, inflorescence many-flowered; flowers small, green with deep maroon lip; in woodland or in wet grassy places; 500–1,700 m. Throughout the tropics of the world.

Malawi. Nyika National Park, Katizi Valley; Nchenachena (la Croix *et al.* 1991: 177).

Liparis nyikana G. Will. ✧

Epiphyte; flowers greenish yellow; evergreen forest, on mossy trunks and branches of forest trees, usually near streams; 2,000–2,350 m. Malawi (Nyika Plateau) and Tanzania.

Source. *Flora zambesiaca* 11(1): 281 (1995); *Plant Systematics and Evolution* 142: 152 (1983).

Malawi. Nyika National Park, on tree fern trunks in gully forest, 1960, *Holmes 233* (K, holo., SRGH, iso.).

Liparis rungweensis Schltr.

Liparis rupicola Schltr.

Terrestrial orchid; flowers green; in submontane grassland, in tall grass, and scrub; ca 2,100 m. Zambia (Nyika only) and Tanzania.

Source. *Flora zambesiaca* 11(1): 281 (1995).

Zambia. Nyika Plateau, near Zambian Rest House, 2,100 m, 1982, *Dowsett-Lemaire 360* (K).

Malaxis katangensis Summerh. ✧

Very small terrestrial orchid 50–100 mm high; leaves 2–3, pleated, inflorescence slender, many-flowered; flowers very small, yellow-green; in *Brachystegia* and transitional woodland; 1,300–1,600 m. Malawi, Zambia, Tanzania, D.R.C., and W. Africa.

Malawi. Nyika National Park, Chisanga Falls (la Croix *et al.* 1991: 180).

Microcoelia globulosa (Hochst.) L. Jonss.

Epiphytic orchid, lacking leaves, inflorescence lax, 8- to 15-flowered, floral bracts sheathing; flowers white, scented, spur ca 3 mm long; in open woodland, occasionally in riverine forest; 1,050–1,600 m. Widespread in tropical Africa.

Malawi. Nyika National Park, Thazima (la Croix *et al.* 1991: 279).

Microcoelia stolzii (Schltr.) Summerh. ✧

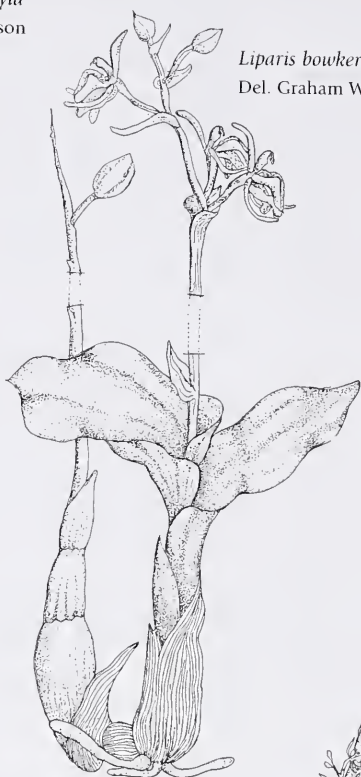
Microcoelia ericosma Summerh.

Epiphytic orchid, lacking leaves, inflorescence dense, many-flowered, floral bracts not sheathing; flowers white, spur 1.5–2.5 mm long; in montane and lakeshore evergreen forest; 1,150–2,300 m. Zambia, Malawi, Zimbabwe, Mozambique, Kenya, and Tanzania.

Holothrix pleistodactyla
Del. Graham Williamson



Liparis bowkeri
Del. Graham Williamson



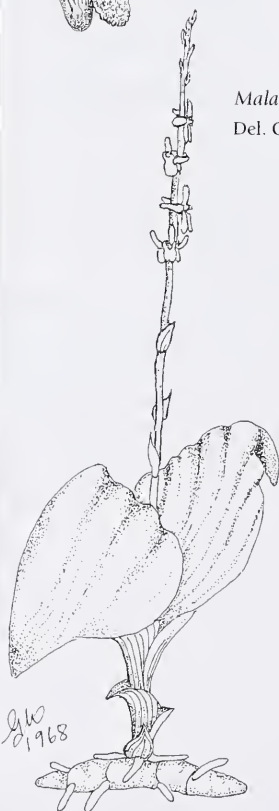
Liparis mulindana
Del. Graham Williamson



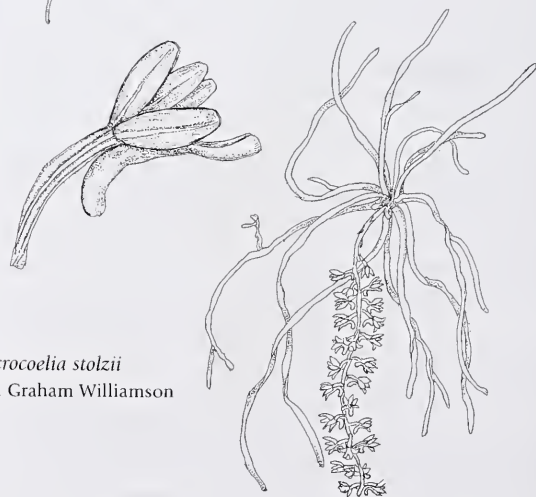
Liparis nyikana
Del. Graham Williamson



Malaxis katangensis
Del. Graham Williamson



Microcoelia stolzii
Del. Graham Williamson



Source. *Flora zambesiaca* 11(2): 429 (1998).

Malawi. Nyika National Park, without locality or collector (Mill 1979).

Zambia. Nyika Plateau, Chowo Forest, 1971, *Williamson* 2103 (SRGH).

***Mystacidium tanganyikense* Summerh. ❖**

Dwarf, short-stemmed epiphytic orchid; flowers white or pale green, spur 10–20 mm long; in dense shade in montane evergreen rainforest, on trunks, branches, and lianas, usually in moss; 1,700–2,400 m. Zimbabwe, Zambia (Nyika only), Malawi, and Tanzania.

Source. *Flora zambesiaca* 11(2): 437 (1998).

Malawi. Nyika National Park, Lake Kaulime, 2,300 m, 1968, *Williamson* 822 (K, SRGH); Juniper Forest Reserve, 2000, *Kurzweil* 2059 (MAL, SRGH, UZL).

Zambia. Nyika Plateau, 1965, *Williamson & Kirby* 129 (K (spirit)).

***Neobolusia stolzii* Schltr. var. *stolzii* ❖**

Terrestrial orchid; flowers yellow-green with maroon lip; damp montane grassland, seepage slopes amongst rocks; 1,800–2,300 m. Zambia (Nyika only), Malawi, and Tanzania.

Source. *Flora zambesiaca* 11(1): 28 (1995).

Malawi. Nyika National Park, Dembo Bridge, 2000, *Johnson* sub *Kurzweil* 2002 (MAL, PRE, SRGH, UZL); Chelinda Bridge, 2000, *Kurzweil* 2023 (MAL); central grasslands, 1966, *Williamson & Odgers* 278 (K, SRGH).

Zambia. Nyika Plateau, near Rest House, 2,150 m, 1982, *Dowsett-Lemaire* 198 (K).

***Nervilia ballii* G.Will. ❖**

Terrestrial orchid; flowers reddish with yellow lip; woodland, grassland, grassland scrub, *Syzygium* thicket, and pine or *Gmelina* plantations; 600–1,500 m. Malawi, Zambia, Zimbabwe, Mozambique, and Tanzania.

Source. *Flora zambesiaca* 11(1): 266 (1995); *Plant Systematics and Evolution* 134: tab. 7 (1980).

Malawi. Rumphi District, Nyika approach, ca 5 km after turn-off to Thazima, 1,500 m, 1987, *I. & E. la Croix* 938 (K).

***Nervilia crociformis* (Zoll. & Moritz) Seidenf.**

Nervilia humilis Schltr.; *Nervilia reniformis* Schltr.; *Nervilia erosa* P.J.Cribb

Terrestrial orchid; flowers brownish green; *Brachystegia* woodland, evergreen forest, grassland, riverine forest, and pine plantations; 650–2,000 m. Widespread in tropical Africa, Madagascar, and Australasia.

Source. *Flora zambesiaca* 11(1): 252 (1995); *Kew Bulletin* 32: 152 (1977).

Zambia. Nyika Plateau, near Chowo and around Kasoma, 2,000–2,200 m 1982, *Dowsett-Lemaire* 280 (K).

***Nervilia pectinata* P.J.Cribb ❖**

Terrestrial orchid; flowers pale green lined with purple; in montane forest and cypress plantations; 990–2,220 m. Mozambique, Zimbabwe, Zambia (Nyika only), Malawi, and Tanzania.

Source. *Flora zambesiaca* 11(1): 253 (1995); *Kew Bulletin* 32: 151 (1977).

Malawi. Nyika Plateau, from Kasyaula to Zovohipolo and Juniper Forest Reserve, 2,000–2,200 m, 1982, *Dowsett-Lemaire* 342 (K).

Zambia. Nyika Plateau, Chowo Forest, 1971, *Williamson* 2102 (K).

***Nervillia shirensis* (Rolfe) Schltr.**

Terrestrial orchid, leaf erect, ovate, inflorescence usually 2-flowered; flowers greenish yellow with purple veining; in *Brachystegia* woodland or montane grasslands; 650–2,200 m. Mozambique, Zimbabwe, Malawi, Zambia, and Tanzania.

Malawi. Nyika National Park, Jalawe Hill; S. of Thazima (la Croix *et al.* 1991: 94).

***Nervilia stolziana* Schltr.**

Nervilia fuerstenbergiana sensu Williamson

Terrestrial orchid; leaves reniform to round; flowers reddish green; in *Brachystegia* woodland, submontane and riverine vegetation, and in pine and *Eucalyptus* plantations; 900–1,800 m. Zambia, Malawi, Mozambique, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 11(1): 253 (1995); *Norweg. J. Bot.* 9: 496 (1990).

Malawi. Nyika Plateau, Chisanga Falls, 1969, *Ball* 1199 (SRGH).

***Platycoryne crocea* (Schweinf. ex Rchb.f.) Rolfe**

Terrestrial orchid 120–300 mm tall; flowers 1–6 in a dense head, yellow-orange to deep orange, spur 10–15 mm long; in drier situations in *Brachystegia* woodland; 800–1,600 m. Malawi and Zambia northwards throughout tropical Africa.

Malawi. Nyika National Park, Thazima (la Croix *et al.* 1991: 102).

***Platycoryne protearum* (Rchb.f.) Rolfe var. *protearum* ❖**

Terrestrial orchid; flowers greenish orange, spur 20–35 mm long; in wet grassland and marsh; 1,050–2,200 m. Zambia, Malawi, D.R.C., Zimbabwe, Angola, and Tanzania.

Source. *Flora zambesiaca* 11(1): 149 (1995).

Malawi. Nyika National Park, without locality or collector (Mill 1979); rocks E. of Chowo, 1968, *Williamson, Ball & Simon* 801 (SRGH, UZL).

Zambia. Nyika Plateau, ca 2,200 m, 1960, *Holmes* 212 (K).

***Polystachya brassii* Summerh.**

Epiphytic, occasionally epilithic, orchid with small ovoid pseudobulbs with *ca* 3 grass-like leaves; flowers 5–6, comparatively large, yellow/white, primrose-scented; in high-rainfall *Brachystegia* woodland, or on rocks; 1,100–1,800 m. Malawi and Zambia.

Malawi. Nyika National Park, near Thazima (la Croix *et al.* 1991: 219).

Zambia. Nyika Plateau, Chowo Rocks (la Croix *et al.* 1991: 219).

***Polystachya dendrobiiflora* Rchb.f. ●**

Polystachya tayloriana Rendle; *Polystachya flexuosa* (Rolfe) Schltr.;

Polystachya miranda Kraenzl.; *Polystachya busseana* Kraenzl.

Epiphytic, epilithic or terrestrial; flowers pink; in rocky outcrops, hillsides, montane scrub, woodland; 550–2,165 m. Widespread in central and eastern Africa.

Source. Brummitt (1973). *Flora zambesiaca* 11(2): 362 (1998).

Malawi. Nyika National Park, near lower Mondwe River, 1972, *Brummitt & Synge* 225 (K); Zungwara; Mpanda Hill; scattered in the Nyika woodland (la Croix *et al.* 1991: 224).

***Polystachya fusiformis* (Thours) Lindl.**

Epiphytic orchid with fusiform pseudobulbs bearing 2–4 leaves on terminal pseudobulb; flowers very small, deep maroon-purple; in high-rainfall *Brachystegia* woodland, or in montane and riverine forest; 1,000–2,135 m. Widespread in tropical Africa; also in Madagascar and the Mascarene Islands.

Malawi. Nyika National Park, widespread in forest and woodland (la Croix *et al.* 1991: 215).

***Polystachya goetzeana* Kraenzl.**

Epiphyte; flowers greenish yellow and white; montane and submontane evergreen forest, embedded in moss on branches of trees; 2,300–2,350 m. Malawi (Nyika Plateau) and Tanzania.

Source. *Flora zambesiaca* 11(2): 344 (1998).

Malawi. Nyika National Park, forest patch by road to Kasaramba, 2,300 m, 1987, *I.F. & E.A.S. la Croix* 1036 (K).

***Polystachya heckmanniana* Kraenzl.**

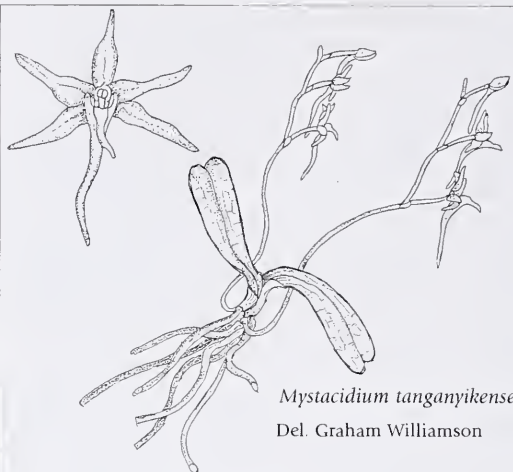
Epiphytic or epilithic orchid with clusters or chains of pseudobulbs; flowers greenish yellow with whitish lip and purple-veined side lobes; in submontane forest or on rocks outside forest; 1,750–2,200 m. Malawi, Tanzania, and Kenya.

Malawi. Nyika National Park, Mwenembwe Forest (la Croix *et al.* 1991: 224).

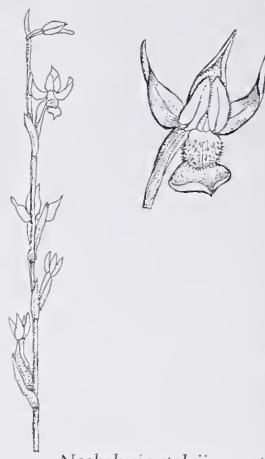
***Polystachya holmesiana* P.J.Cribb ❖**

Epiphyte; flowers orange; in high-rainfall *Brachystegia* woodland and riverine forest, usually on trees, sometimes on rocks in shade; 1,600–1,920 m. Malawi (Nyika only) and Zambia; known only from the *Flora zambesiaca* area.

Source. *Flora zambesiaca* 11(2): 351 (1998).



Mystacidium tanganyikense
Del. Graham Williamson



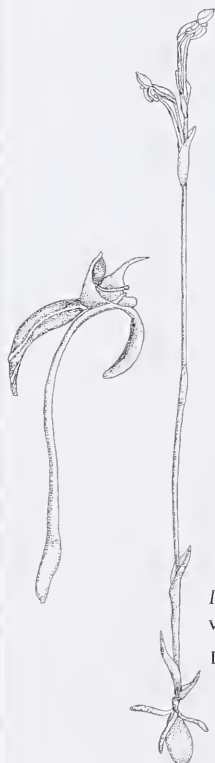
+ *Neobolusia stolzii* var. *stolzii*
Del. Graham Williamson



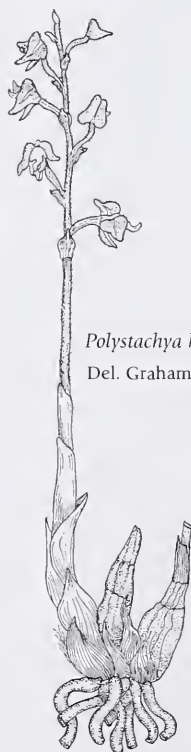
Nervilia pectinata
Del. Graham Williamson



Nervilia ballii
Del. Graham Williamson



Platycoryne protearum
var. *protearum*
Del. Graham Williamson



Polystachya holmesiana
Del. Graham Williamson



Polystachya transvaalensis
Del. Graham Williamson

Malawi. Rumph District, approach to Nyika National Park, ca 1,650 m, 1980, *la Croix* 206 (K); and inside park, N. of Thazima (*la Croix et al.* 1991: 227).

Polystachya malilaensis Schltr.

Epiphytic orchid, inflorescence up to 20-flowered; flowers with yellowish sepals and petals, lip white with purple markings; epiphyte in submontane and riverine forest, also in high-rainfall *Brachystegia* woodland; 1,600–2,285 m. Malawi, Zambia, Tanzania, and D.R.C.

Malawi. Nyika National Park, widespread between 2,135 m and 2,285 m (*la Croix et al.* 1991: 230).

Polystachya modesta Rchb.f.

Polystachya shirensis Rchb.f.

Epiphytic or epilithic; flowers yellow, green, or dull red; riverine forest, high-rainfall woodland, and mist zone woodland, epiphytic on trees and occasionally on *Xerophyta* spp., also on rocks; sea level to 1,800 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(2): 339 (1998).

Malawi. Nyika National Park, Thazima-Chelinda Road, in woodland, 1,800 m, 1984, *la Croix* 619 (K).

Polystachya transvaalensis Schltr. ✧

Polystachya rendlei Rolfe

Epiphytic or epilithic; flowers green, yellow-green or yellow; submontane, montane, and gully forest; 1,400–2,440 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(2): 330 (1998).

Malawi. Nyika Plateau, Lake Kaulime, 2,440 m, 1959, *Richards* 10476 (K); *ibid.*, 1968, *Williamson, Ball & Simon* 823 (UZL); Mpopot, 2000, *Maroyi* sub *Kurzweil* 2033 (MAL).

Zambia. Nyika Plateau, Manyanjere Forest, 2,070 m, 1982, *Dowsett-Lemaire* 282 (K).

Rangaeris muscicola (Rchb.f.) Summerh. ✧

Aerangis falcifolia Schltr.; *Mystacidium musciculum* (Rchb.f.) Th.Dur. & Schinz

Epiphytic or lithophytic orchid; flowers waxy white, spur 55–85 mm long; in *Brachystegia* woodland and evergreen forest, often on rocks; 800–1,800 m. Widespread in tropical and southern Africa.

Source. *Flora zambesiaca* 11(2): 440 (1998).

Malawi. Nyika Plateau, Chisanga Falls, on rocks, 1968, *Williamson* 841 (K).

Roeperocharis bennettiana Rchb.f. ✧

Terrestrial orchid; flowers green, spur 5–15 mm long; in montane grassland, usually in drier areas; 2,200–2,440 m. Nyika Plateau (Zambia and Malawi), Tanzania, Kenya, and Ethiopia.

Source. *Flora zambesiaca* 11(1): 157 (1995).

Malawi. Nyika National Park, edge of thicket on road to Chowo Forest, 2,200 m, 1982, *la Croix* 322 (K); Chisanga Falls, 2000, *Johnson* sub *Kurzweil* 1984 (MAL, UZL); without locality, 1968, *Williamson* 897 (UZL).

Zambia. Nyika National Park, 1966, *Williamson & Odgers* 304 (K).

No country given. Nyika Plateau

Roeperocharis wentzeliana Kraenzl.

Terrestrial orchid; flowers green, spur 4–7 mm long; in montane grassland, usually in damper areas, montane bog; 1,700–2,440 m. Zambia (Nyika only), Malawi, and Tanzania.

Source. *Flora zambesiaca* 11(1): 159 (1995).

Malawi. Nyika National Park, ca 2 km N. of Chosi Peak, 1986, *Philcox, Pope & Chisumpa* 10030 (K); Chelinda Bridge, 2000, *Kurzweil* 2026 (MAL, SRGH); without locality, 1968, *Williamson* 902 (UZL).

Zambia. Nyika Plateau, 1967, *Williamson* 296 (K, SRGH).

Satyrium amblyosaccos Schltr.

Terrestrial orchid; flowers white, spurs 2–3 mm long; in montane, wet or dry grassland, marsh, and *Brachystegia* woodland; 1,200–2,300 m. Zambia, Malawi, D.R.C., Burundi, and Tanzania.

Source. *Flora zambesiaca* 11(1): 220 (1995).

Malawi. Nyika National Park, road to Nganda, ca 3 km N. of turn-off to Dembo Bridge, 1977, *Grosvenor & Renz* 1178 (K, SRGH); Dembo Bridge, 2000, *Johnson* sub *Kurzweil* 2004 (MAL, UZL).

Zambia. Nyika Plateau, 1968, *Williamson* 358 (K, UZL).

Satyrium breve Rolfe ✧

Terrestrial orchid; flowers pink to purple, spurs 2–5.5 mm long; in marshy grassland; 1,200–2,300 m. Zimbabwe, Mozambique, Zambia, Malawi, D.R.C., Rwanda, Burundi, and Tanzania. This species is very variable, and has an unusually long flowering season.

Source. *Flora zambesiaca* 11(1): 222 (1995).

Malawi. Nyika National Park, by Dam 3, 2,250 m, 1986, *la Croix* 863 (K); without locality, 1968, *Williamson* 1033 (UZL).

Zambia. Nyika Plateau, 1966, *Williamson* 234 (K).

Satyrium buchananii Schltr. ●

Satyrium longissimum Rolfe; *Satyrium nyassense* Kraenzl.; *Satyrium stolzianum* Kraenzl.; *Satyrium kassnerianum* Kraenzl.

Terrestrial orchid; flowers white, spurs 45–75 mm long; in dambos and wet montane grassland; 1,300–2,300 m. Zimbabwe, Malawi, Zambia, D.R.C., Angola, and Tanzania.

Source. *Flora zambesiaca* 11(1): 210 (1995).

Malawi. Nyika National Park, road from Chelinda to Juniper Forest, 2000, *Kurzweil* 2053 (MAL); without locality or collector (*Mill* 1979).

Satyrium carsonii Rolfe

Terrestrial orchid; flowers white, spurs 8–10 mm long; in mixed woodland, dambo edges, roadside grass; 1,200–1,500 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 201 (1995).

Malawi. Nyika National Park, without locality or collector (*Mill* 1979).

Zambia. Lundazi District, foothills of Nyika, 1968, *Williamson, Ball & Simon* 828 (K).

Satyrium chlorocorys Rolfe

Satyrium kraenzlinii Rolfe; *Satyrium fallax* Schltr.

Terrestrial orchid; flowers green or yellow-green, spurs 8–20 mm long; in montane grassland; 1,450–2,345 m. Zimbabwe, Mozambique, Malawi, Zambia (Nyika only), Uganda, and Tanzania.

Source. *Flora zambesiaca* 11(1): 216 (1995).

Malawi. Nyika Plateau, Kasaramba Viewpoint, 2,345 m, 1970, *Brummitt* 10702 (K); Chosi Hill, 2000, *Kurzweil* 1969 (MAL, PRE, SRGH, UZL).

Zambia. Nyika Plateau, 1968, *Williamson* 938 (K, SRGH).

Satyrium coriophoroides A.Rich. ✧

Satyrium sacculatum (Rendle) Rolfe; *Satyrium stolzii* Kraenzl.

Terrestrial orchid; flowers red, pink or white, spurs 8.5–17 mm; in grassland, and at edge of woodland or in dambos; 1,400–2,300 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 215 (1995).

Zambia. Nyika Plateau, 1968, *Williamson, Ball & Simon* 359 (K, SRGH).

Satyrium crassicaule Rendle ●

Satyrium fischeranum Kraenzl.; *Satyrium kirkii* Rolfe; *Satyrium usambarae* Kraenzl.

Terrestrial orchid; flowers pale pink, spurs 8–12 mm long; in wet dambos, swamps, and lake margins; 1,300–2,300 m. Widespread in tropical Africa.

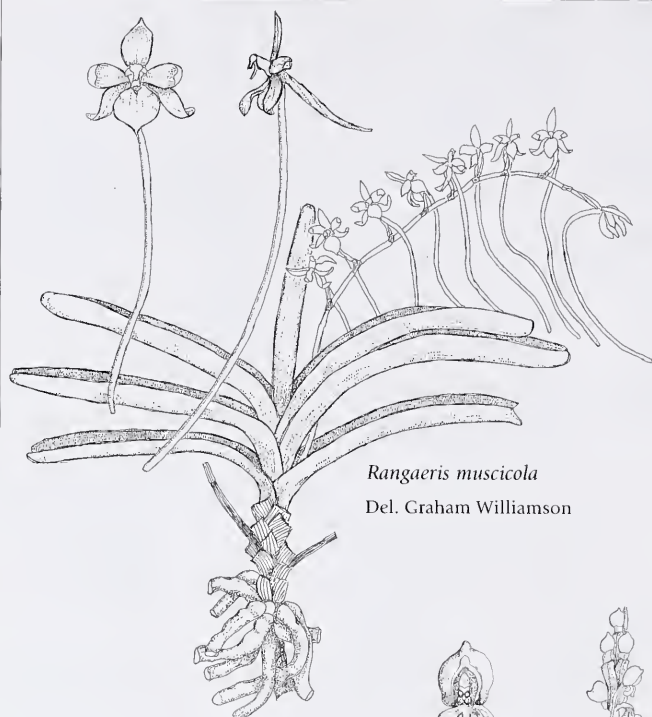
Source. *Flora zambesiaca* 11(1): 206 (1995).

Malawi. Nyika National Park, 12.5 km N. of Chelinda Camp on way to Nganda, ca 2,200 m, 1977, *Grosvenor & Renz* 1144 (K, SRGH); Nganda Hill, 2000, *Burrows* sub *Kurzweil* 2030 (MAL); without locality, 1968, *Williamson, Ball & Simon* 816 (UZL).

Zambia. Nyika Plateau, 2,100 m, 1959, *Richards* 10422 (K).

Satyrium kitimboense Kraenzl.

Terrestrial orchid 300–750 mm tall, with roundish basal leaves flat on the ground, inflorescence ca 8-flowered; flowers white, spurs 24 mm long; grassy banks at edge of, and in, *Brachystegia* woodland, occasionally in dambos; 875–1,675 m. Zimbabwe, Mozambique, Malawi, Zambia, Angola, D.R.C.,



Rangaeris muscicola
Del. Graham Williamson



Satyrium coriophoroides
Del. Graham Williamson



Satyrium rhynchantoides
Del. Graham Williamson

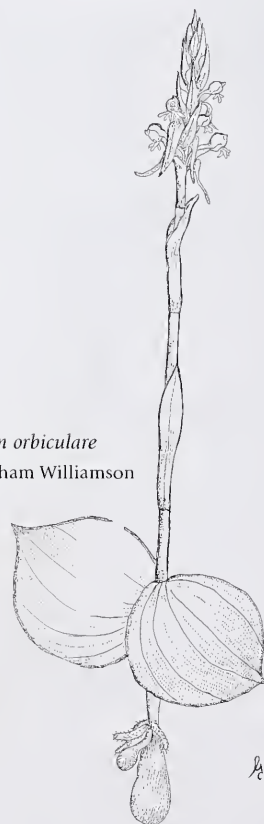
Roeperocharis bennettiana
Del. Graham Williamson



Satyrium breve
Del. Graham Williamson



Satyrium orbiculare
Del. Graham Williamson



GW
1968

Burundi, and Tanzania.

Malawi. Nyika National Park, Katizi Valley; Thazima (la Croix *et al.* 1991: 131).

Satyrium microcorys Schltr.

Terrestrial orchid; flowers cream-yellow or yellow-green, spurs 3–4 mm long; in montane grassland, usually amongst rocks in seepage areas; 1,900–2,300 m. Zambia (Nyika only), N. Malawi, and Tanzania.

Source. *Flora zambesiaca* 11(1): 217 (1995).

Malawi. Nyika National Park, near Chelinda Bridge, 2,300 m, 1987, *la Croix* 1002 (K, MAL); Chelinda Bridge, 2000, *Kurzweil* 2015 (LMA, MAL, PRE, SRGH, UZL); without locality, 1966, *Williamson & Odgers* 290 (K, SRGH).

Satyrium monadenum Schltr. ●

Terrestrial orchid; flowers carmine-red, spurs 12–15 mm; in seasonally wet montane grassland; usually over 2,100 m. Nyika Plateau (Zambia and Malawi) and Tanzania.

Source. *Flora zambesiaca* 11(1): 209 (1995).

Malawi. Nyika National Park, wet montane grassland near Dam #3, 2,300 m, 1983, *la Croix* 403 (K).

Zambia. Nyika Plateau, 1967, *Williamson* 229 (K, SRGH).

Satyrium neglectum Schltr. subsp. **neglectum**

Satyrium densum Rolfe; *Satyrium colliferum* Schltr.

Terrestrial orchid; flowers pink, spurs 6–17 mm long; in montane grassland, dambos; 1,750–1,900 m. Widespread in tropical Africa.

Malawi. Nyika National Park, Mpopoti Peak, 2000, *Willis & Luhanga* 86 (PRE); without locality or collector (Mill 1979); without locality, 1968, *Williamson, Ball & Simon* 817 (UZL).

Satyrium neglectum Schltr. subsp. **woodii** (Schltr.) A.V. Hall

Terrestrial orchid; flowers pink, sometimes yellowish, spurs 6–17 mm long; in montane grassland and dambos; 1,750–1,900 m. Widespread in tropical Africa.

Source. UZL.

Malawi. Nyika National Park, without locality or collector (Mill 1979); road to Kasaramba, 1968, *Williamson, Ball & Simon* 373 (SRGH).

Satyrium orbiculare Rolfe ✧

Terrestrial orchid; flowers bright orange-red, spurs 9–10 mm long; in montane grassland, woodland; 1,650–2,200 m. Zambia, Malawi, D.R.C., Rwanda, and Tanzania.

Source. *Flora zambesiaca* 11(1): 203 (1995).

Malawi. Nyika Plateau, Mbuzinandi-Olera Road, ca 1,700 m, 1977, *Pawek* 12493 (K, MAL, MO, SRGH, UC); Wowwe Valley, 2000, *Kurzweil* 2043 (MAL).

Zambia. Nyika Plateau, 1968, *Williamson, Ball & Simon* 795 (K).

Satyrium princeae Kraenzl.

Terrestrial orchid; flowers rose-pink, spurs 11–18 mm; in montane grassland, usually in wetter areas; 1,900–2,400 m. Nyika Plateau (Zambia and Malawi) and Tanzania.

Source. *Flora zambesiaca* 11(1): 203 (1995).

Malawi. Nyika National Park, Kasaramba Road near Juniper Forest junction, ca 2,300 m, 1970, *Pawek* 3391 (K); Dembo Bridge, 2000, *Johnson* sub *Kurzweil* 2005 (MAL, SRGH, UZL).

Zambia. Nyika Plateau, ca 1,900 m, 1977, *Grosvenor & Renz* 1101 (K, SRGH); E. of Chowo, 1966, *Williamson & Odgers* 279 (SRGH).

Satyrium rhynchantoides Schltr. ✧

Terrestrial orchid; flowers pale pink to lilac, spurs 6–8 mm; in submontane grassland and high-rainfall woodland, usually on rocky outcrops; 1,700–2,200 m. Zambia, Malawi, and Tanzania.

Source. *Flora zambesiaca* 11(1): 208 (1995).

Zambia. Nyika National Park, Chowo Rocks, 2,200 m, 1974, *Pawek* 7946 (K, UC); *ibid.*, ca 2,100 m, 1966, *Williamson & Odgers* 243 (K); *ibid.*, 1968, *Williamson, Ball & Simon* 804 (UZL).

Satyrium riparium Rchb.f.

Terrestrial orchid; flowers greenish yellow, spurs 18–25 mm; in montane grassland, swampy grassland, and in dambos; 1,100–2,100 m. Zimbabwe,

Zambia, Malawi, D.R.C., Angola, and Tanzania.

Source. *Flora zambesiaca* 11(1): 215 (1995).

Malawi. Nyika National Park, without locality or collector (Mill 1979).

Zambia. Nyika Plateau, Chowo Rocks, 2,100 m, 1982, *Dowsett-Lemaire* 200 (K).

Satyrium sceptrum Schltr. ●

Satyrium acutirostrum Summerh.

Terrestrial orchid; flowers orange, yellow or red, spurs 13–17 mm; montane grassland; 1,950–2,300 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 209 (1995).

Malawi. Nyika National Park, Chisanga Falls, 2000, *Johnson* sub *Kurzweil* 1985 (MAL, UZL); Zungwara, 2000, *Kurzweil* 2013 (MAL, SRGH, UZL).

Zambia. Nyika Plateau, at Rest House, 1966, *Williamson & Odgers* 267 (K, SRGH).

Satyrium shirens Rolfe

Terrestrial orchid; flowers creamy white, spurs 8–12 mm long; montane grassland, rocky hillsides, and seepage slopes; 1,750–2,500 m. Malawi and Zambia (Nyika only); not known elsewhere.

Source. *Flora zambesiaca* 11(1): 217 (1995).

Malawi. Nyika National Park, junction of Chelinda Bridge and Kasaramba roads, ca 2,300 m, 1977, *Pawek* 12444 (K, MAL, MO); Chosi Hill, 2000, *Kurzweil* 1968 (LMA, MAL, PRE, SRGH, UZL).

Zambia. Nyika Plateau, 1968, *Williamson* 937 (K, SRGH).

Satyrium sphaeranthum Schltr.

Terrestrial orchid; flowers white or bright yellow, spurs 10–12 mm long; usually occurs in the transition zone between two vegetation types, for example, between evergreen forest and montane grassland, and between thicket and *Brachystegia* woodland; 1,280–2,200 m. Zimbabwe, Zambia (Nyika only), Malawi, and Tanzania.

Source. *Flora zambesiaca* 11(1): 218 (1995).

Malawi. Nyika National Park, Katizi Valley, ca 1,900 m, 1982, *la Croix & Johnston-Stewart* 332 (K); Chisanga Falls, 2000, *Johnson* sub *Kurzweil* 1990 (MAL, UZL); without locality, 1968, *Williamson* 898 (UZL).

Zambia. Nyika Plateau, behind Rest House, verge of evergreen forest, 1966, *Williamson & Odgers* 297 (K, SRGH).

Satyrium trinerve Lindl. ●

Satyrium zombense Rolfe; *Satyrium atherstonei* Rchb.f.; *Satyrium occultum* Rolfe; *Satyrium nuttii* Rolfe

Terrestrial orchid; flowers white, spurs 4–7 mm long; in grassland, usually in moist localities, dambos, and *Brachystegia* woodland; 550–2,300 m. Widespread in tropical Africa, South Africa, and Madagascar.

Source. *Flora zambesiaca* 11(1): 220 (1995).

Malawi. Nyika National Park, by main road opposite old salt lick, 2,300 m, 1976, *Phillips* 1229 (K).

Satyrium volkensii Schltr.

Satyrium trachypetalum Kraenzl.; *Satyrium leptopetalum* Kraenzl.

Terrestrial orchid; flowers green or yellow-green, spurs 14–22 mm; in woodland, grassland, and dambo margins; 1,200–2,400 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 216 (1995).

Malawi. Nyika National Park, without locality or collector (Mill 1979).

Zambia. Nyika foothills, 1966, *Williamson* 242 (K).

Schizochilus sulphureus Schltr. ✧

Terrestrial orchid; flowers yellow, spur 0.8–1.2 mm long; this is a montane species, occurring above 1,800 m; often found in moss in seepages over rock, and in damp grassland, often after fire. Malawi, Mozambique, and S. Tanzania.

Source. *Flora zambesiaca* 11(1): 31 (1995).

Malawi. Nyika Plateau, 1960, *Holmes* 203 (K, SRGH).

Zambia. Nyika Plateau, Chowo Rock, 1968, *Williamson, Ball & Simon* 802 (UZL).

Schwartzkopffia lastii (Rolfe) Schltr. ✧

Terrestrial (saprophytic?) orchid to 50 mm tall; leaves reduced to ca 5 bracts

on the stem; flowers 1–3, comparatively large, white, lemon-scented; in grass under *Brachystegia* woodland; 650–1,800 m. Zimbabwe, Mozambique, Malawi, Tanzania, D.R.C., and Angola.

Malawi. Nyika National Park, without locality (la Croix *et al.* 1991: 34).

Stenoglottis zambesiaca Rolfe ✧

Stenoglottis fimbriata sensu Moriarty (1975), la Croix *et al.* (1991), non Lindley (1837).

Epiphytic or epilithic orchid with a basal rosette of brown- or black-spotted leaves, inflorescence more or less secund, many-flowered; flowers pale to deep pink, lip spotted, spur absent; in deep shade of evergreen forest or moist woodland, on mossy rocks or rotting logs; 1,300–2,150 m. South Africa, Mozambique, Zimbabwe, Malawi, and Tanzania.

Source. *Flora zambesiaca* 11(1): 41 (1995); la Croix *et al.* 1991: 107.

Malawi. Nyika National Park, Kasyaula Forest (la Croix *et al.*: 107, 1991, as *S. fimbriata*).

Stolzia repens (Rolfe) Summerh. var. **repens**

Epiphyte; flowers yellow with red markings; in high-rainfall woodland and evergreen forest; 1,050–2,200 m. Widespread in tropical Africa.

Source. *Flora zambesiaca* 11(1): 290 (1995).

Malawi. Nyika National Park, without locality or collector (Mill 1979).

Zambia. Nyika Plateau, Manyenere Forest, 2,070 m, 1982, *Dowsett-Lemaire* 365 (K).

Stolzia williamsonii P.J.Cribb ✧

Epiphyte; flowers red-brown; in high-rainfall woodland and evergreen forest; 1,050–2,200 m. Malawi (Nyika Plateau) and Tanzania.

Source. *Flora zambesiaca* 11(1): 291 (1995).

Malawi. Nyika Plateau, Kasaramba Forest, 1968, *Williamson, Ball & Simon* 370 (K, holo.).

Tridactyle anthomaniaca (Rchb.f.) Summerh.

Tridactyle trachyrhiza (Schltr.) Schltr.

Epiphytic orchid; flowers straw-orange to brownish orange, spur 7–16 mm long; in high-rainfall woodland and edge of evergreen forest; 60–1,500 m. Widespread in tropical Africa. Not recorded from Nyika in la Croix *et al.* (1991).

Source. *Flora zambesiaca* 11(2): 447 (1998).

Zambia. Nyika Plateau, Chisai Hill, 1966, *Williamson & Odgers* 123 (K).

Tridactyle citrina P.J.Cribb ✧

Epiphytic orchid; flowers yellow, cream-yellow or greenish cream, spur 40–50 mm long; in woodland and on scattered trees in montane grassland, also in high-rainfall *Brachystegia* woodland, usually on larger branches; 1,360–1,700 m. Zambia, N. Malawi, and S. Tanzania.

Source. *Flora zambesiaca* 11(2): 454 (1998).

Malawi. Rumphi District, approach to Nyika National Park, in mixed woodland, ca 1,600 m, 1986, *I. & E. la Croix* 903 (K, MAL).

Zambia. Nyika Plateau, near Chire River, on *Protea* trees and rocks, 1966, *Williamson* 230 (K, holo.).

Tridactyle inaequilonga (De Wild.) Schltr.

Angraecum inaequilongum De Wild.

Epiphytic orchid; flowers yellowish green to straw-orange, spur 7–12 mm long; usually a high level epiphyte, forming large hanging colonies, in submontane and riverine forest, occasionally in high-rainfall *Brachystegia* woodland; 1,250–1,800 m. Zimbabwe, Malawi, D.R.C., and Tanzania. Perhaps conspecific with *T. stipulata* (De Wild.) Schltr.

Source. *Flora zambesiaca* 11(2): 448 (1998).

Malawi. Nyika National Park, Chisanga Falls, 1,600–1,800 m, 1981, *Dowsett-Lemaire* 281 (K); Chisanga Falls, 2000, *Winter sub Kurzweil* 1991 (MAL).

Tridactyle tricuspis (Bolos) Schltr.

Tridactyle nyassana Schltr.; *Tridactyle frommiana* (Kraenzl.) Schltr.;

Tridactyle fragrans G.Will.

Epiphytic orchid; flowers greenish white or yellow-green, spur 9–14 mm long; in miombo or *Brachystegia* woodland, montane evergreen forest, also on granite outcrops and on *Xerophyta* spp. on mountains; 1,130–2,285 m. Widespread in tropical and southern Africa. A very variable species.

Source. *Flora zambesiaca* 11(2): 452 (1998).

Malawi. Nyika National Park, Chowo Rocks, 2,150 m, 1970, *Pawek* 3428 (K); Montane mist forest, central Nyika, 1966, *Williamson* 227 (K, SRGH) [type of *T. fragrans*].

Tridactyle tridentata (Harv.) Schltr. ✧

Epiphytic orchid; leaves terete (round in section); flowers straw-coloured, spur 6–9 mm long; epiphyte in *Brachystegia* woodland, sometimes on rocks; 900–1,900 m. South Africa to Tanzania and Uganda.

Malawi. Nyika National Park, near Chisanga Falls; Nyika approach (la Croix *et al.* 1991: 293).

Excluded species

In addition, a number of species have also been reported to occur on the Nyika Plateau, but their identity is questionable and cannot be verified since no voucher specimens have been deposited in herbaria. It is assumed that a number of these are incorrectly identified.

Bulbophyllum intertextum Lindl.

Dowsett-Lemaire 1985.

No country given.

Bulbophyllum ivorense Cribb & Perez-Vera

Currently only known from D.R.C. and W. Africa.

Malawi. Mill 1979.

Bulbophyllum oxychilum Schltr.

Currently only known from D.R.C., Uganda, and W. Africa.

Malawi. Mill 1979.

Centrostigma occultans (Rchb.f.) Schltr.

Malawi. Mill 1979.

Cyrtorchis arcuata (Lindl.) Schltr.

Malawi. Mill 1979.

Cyrtorchis praetermissa Summerh.

Malawi. Mill 1979.

Disa dichroa Summerh.

Malawi. Mill 1979.

Disa versicolor Rchb.f.

Malawi. Mill 1979.

Eulophia aurantiaca Rolfe

Malawi. Mill 1979.

Eulophia speciosa (R.Br. ex Lindl.) Bolus

Malawi. Mill 1979.

Habenaria altior Rendle

Currently only known from E. Africa.

Malawi. Mill 1979.

Habenaria malacophylla Rchb.f.

Malawi. Mill 1979.

Habenaria thomsonii Rchb.f.

Currently only known from E. Africa.

Malawi. Mill 1979.

Habenaria weberiana Schltr.

Malawi. Mill 1979.

Stenoglottis zambesiaca
Del. Graham Williamson

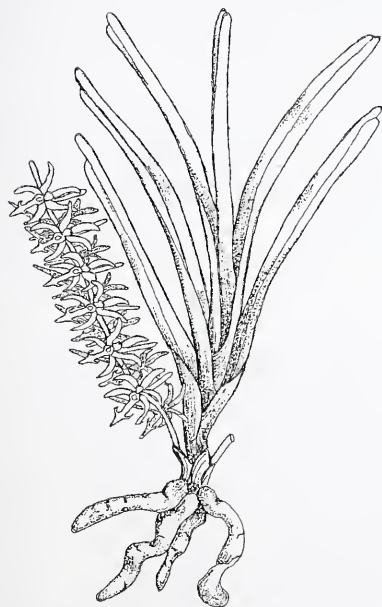
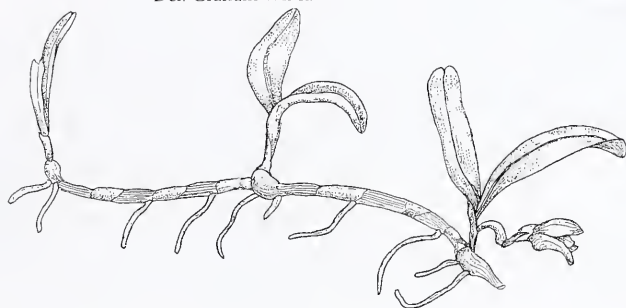


Schwartzkopffia lastii
Del. Graham Williamson

Schizochilus sulphureus
Del. Graham Williamson



Stolzia williamsonii
Del. Graham Williamson



Tridactyle tridentata
Del. Graham Williamson



Tridactyle citrina
Del. Graham Williamson

Liparis deistellii Schltr.

Currently only known from W. and E. Africa.
Dowsett-Lemaire 1985.

Malaxis schliebenii (Mansf.) Summerh.

Malawi. Mill 1979.

Polystachya vaginata Summerh.

Dowsett-Lemaire 1985.

Satyrion paludosum Rchb.f.

Malawi. Mill 1979.

Tridactyle furcistipes Summerh.

Currently only known from E. Africa.
Malawi. Mill 1979.

POACEAE

Agrostis lachnantha Nees

Agrostis buttoniae (Hack.) C.E.Hubb.

South African bent

Annual or short-lived perennial, 0.3–0.9 m high; grows in patches in water or wet soils along or in streams, on river-banks, near waterfalls, in irrigation canals, on wet rock, in kloof forests, and along roads; also in tufts in montane grassland. Southern African region to Uganda, Ethiopia, and Sudan.

Source. *Flora zambesiaca* 10(1): 88 (1971).

Malawi. Nyika Plateau, near Nganda Hill, 2,320 m, 1962, *Tyrer 881* (COL, SRGH); Mpopoti, 2000, *Mwanyambo 543* (MAL); Dembo River Bridge, 2000, *Smook 10781* (PRE, MAL).

Agrostis producta Pilg. ✧

Agrostis greenwayi C.E.Hubb

Compactly tufted, erect perennial, 300–800 mm high, base with fibrous remains of old leaf-sheaths; in montane grassland with *Exotheca abyssinica* grassland, on hillsides, and rocky slopes, often found in shade under bracken, also along roadsides. Malawi and Zimbabwe into E. Africa.

Source. *Flora zambesiaca* 10(1): 89 (1971).

Malawi. Nyika Plateau, Lake Kaulime, 1959, *Robinson 3040* (SRGH); en route to Chelinda Bridge, 2000, *Smook 10818* (PRE) and 10819 (PRE); past Dam 2 on way to Chelinda Bridge, 2000, *Smook 10834* (PRE, MAL, UZL, SRGH); between Chelinda Hill and Kasaramba turnoff, 2000, *Smook 10889* (PRE, MAL, UZL, SRGH, LMA).

Agrostis schimperiana Steud.

Loosely tufted, erect to sometimes geniculate, stoloniferous perennial, 300–1,200 mm high; in moist places in mountain grassland, along streams and on river-banks, on wet rocks near waterfalls, and in gorges. Zambia and Zimbabwe; also Ethiopia and E. Africa.

Source. *Flora zambesiaca* 10(1): 88 (1971).

Zambia. Nyika Plateau, 2,130 m, 1959, *Robinson 2998* (BM, K, SRGH).

Aira caryophyllea L. ✧

silvery hair grass

Annual 30–400 mm high; invades disturbed soil of montane grasslands (Lemon 1964); *A. caryophyllea* intergrades with *A. cupaniana* Guss., both European species, which are often difficult to separate, with the African plants often appearing to fall somewhere between the two species and further investigation is necessary. Europe, northern Africa, W. tropical Africa, extending throughout eastern tropical Africa to southern Africa; also in western Asia.

Source. *Flora zambesiaca* 10(1): 81 (1971).

Malawi. Nyika, 1952, *Jackson 880* (K, SRGH).

Alloteropsis semialata (R.Br.) Hitchc.

Tufted perennial, ca 0.2–1.5 m high; basal sheaths silky pubescent to tomentose; a polymorphic species, unique in possessing both kranz and non-kranz anatomy; can be distinguished morphologically into two subspecies. Old World tropics and South Africa.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

Alloteropsis semialata (R.Br.) Hitchc. subsp. **eckloniana** (Nees) Gibbs Russ. ✧

black-seed grass

Basal leaf sheaths veins 0.3 mm wide; leaf blades broad, flat, narrowing

abruptly to tip; inflorescence usually shorter than 80 mm, spikelets dark-coloured, tightly packed; upland grassland; 1,300–2,000 m. South Africa to Tanzania. The specimen quoted below has an inflorescence atypical for this subspecies, but other characters fit.

Source. *Flora zambesiaca* 10(3): 61 (1989).

Malawi. Nyika National Park, Juniper Forest, 2000, *Smook 10918* (PRE).

Andropogon amethystinus Steud.

Perennial, very variable both in habit and spikelet details; straggling with wiry rhizomes, but at higher altitudes forming dense tufts; up to 600 mm high; racemes vary from glabrous to densely hairy, internodes and pedicels linear or pedicels slightly clavate; sessile spikelet 5–8.5 mm long, lower glume 2-nerved; pedicelled spikelet awned; upland and montane grassland, often in moist situations. Malawi and Zambia; Lesotho, South Africa, northwards to E. Africa, Ethiopia, and Nigeria; also in Yemen and India.

Malawi. Nyika Plateau, Lake Kaulime, 2,340 m, 1970, *Brummitt 10789* (PRE, K); between Chelinda Hill and Kasaramba road, 2000, *Smook 10891* (PRE, MAL, UZL, SRGH, LMA).

Andropogon eucomus Nees

snowflake grass, old man's beard; kasorosoro

Perennial, tufted; up to 1 m high; racemes 3–6; pedicels and internodes villous to plumose with hairs 7–10 mm long; sessile spikelet 2–3 mm long; allied to *A. laxatus*, which usually has 2 racemes; sessile spikelet 4–5 mm long; pedicelled spikelet much reduced and *A. huillensis* with more than 2 racemes, sessile spikelet 4–7 mm; pedicelled spikelet present; marshy places, generally in wet, acid soil such as Lake Kaulime (Lemon 1964). Malawi, Mozambique, Zambia, and Zimbabwe; Angola and South Africa; northwards to E. Africa; also Madagascar.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Andropogon gayanus Kunth

blue grass

Perennial, tufted, tall up to 2.5 m high; raceme internodes and pedicels swollen upwards, cuneate; lower glume of sessile spikelet more or less flattened, with shallow median groove, keels lateral; in xerophytic grasslands on dolerite, sandy, or clayey soils, deciduous bush land and wooded grassland, and in fallow lands and along roadsides. Throughout tropical and southern Africa.

Zambia. Nyika National Park, Kaperekezi Gate, 2000, *Phiri 3838* (UZL).

Andropogon laxatus Stapf

Perennial, tufted, up to 0.9 m high; racemes usually paired, plumose, internodes and pedicels filiform; pedicelled spikelet reduced to suppressed; sessile spikelet 4–5 mm long; see note under *A. eucomus* for affiliations; in marshy places. South Africa northwards to E. Africa and Ethiopia, and westwards to Cameroon and W. Africa.

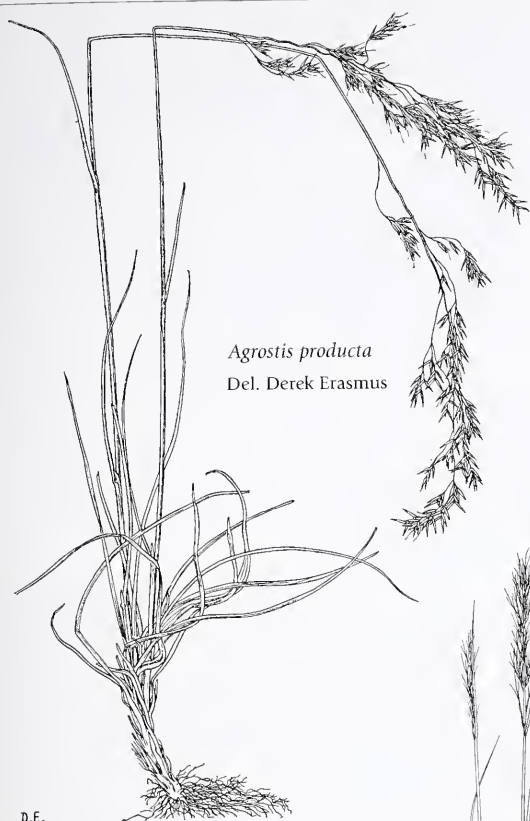
Malawi. Nyika National Park, Chelinda Bridge, 2000, *Smook 10809* (PRE, MAL, UZL, SRGH, LMA).

Andropogon schirensis A.Rich. ✧

Andropogon schirensis A.Rich. var. *angustifolius* Stapf

Shire bluestem, stab grass

Perennial, tufted, erect, up to 2.5 m, older leaves often reddish, raceme internodes and pedicels clavate, not swollen, back of lower glume of sessile spikelet deeply depressed, keels dorsal and almost meeting; widespread African grass often showing much variation especially in plant and spikelet



Agrostis producta
Del. Derek Erasmus



Aira caryophyllea
Del. Derek Erasmus



Aristida junciformis
subsp. *welwitschii*
Del. Wilma Roux

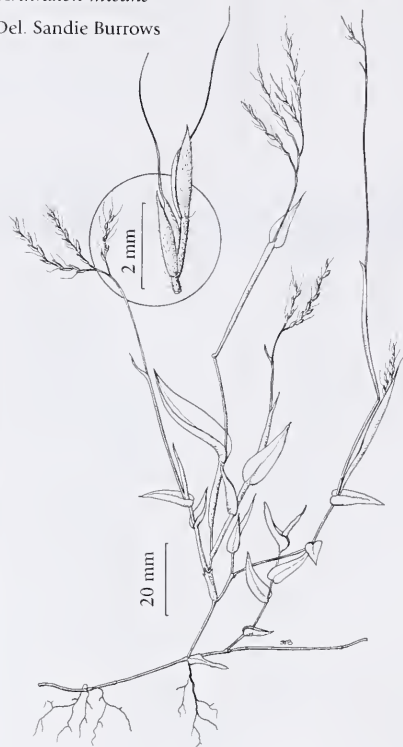


Alloteropsis semialata
subsp. *eckloniana*
Del. Wilma Roux

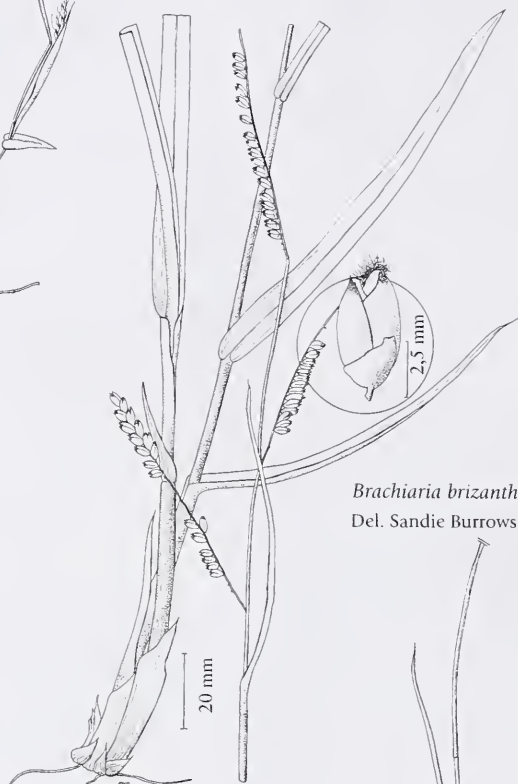


Andropogon schirensis
Del. Sandie Burrows

Arthraxon micans
Del. Sandie Burrows



Bewsia biflora
Del. Wilma Roux



Brachiaria brizantha
Del. Sandie Burrows



Brachypodium flexum
Del. Charmaine Bartman



Brachyachne fulva
Del. Sandie Burrows

size, leaf width, and hairiness of racemes; grassland and open woodland, sometimes invading wet dambo verges, often dominant grass in association with *Loudetia simplex* and *Exotheca abyssinica* in montane or short grassland, also often a dominant perennial grass in miombo woodland; grazed by hartebeest, reedbeek, and zebra. Southern Africa and tropical Africa to Ethiopia.

Malawi. Nyika National Park, Chosi Viewpoint, 2000, *Phiri* 3532 (UZL), 2000, *Smook* 10721 (PRE, MAL, UZL, SRGH, LMA); Thazima Gate, 2000, *Phiri* 3635 (UZL); Chisanga Falls slope, 2000, *Mwanyambo* 488 (MAL); near Chisanga Falls, 2000 *Smook* 10756 (PRE, MAL, UZL, SRGH, LMA); near Dembo Bridge, 2000, *Kasakula* 218 (MAL?).

Zambia. Nyika, 1961, *Vesey-Fitzgerald* 2979 (PRE); Rest House area, 2000, *Phiri* 3768 (UZL); western part of Nyika Park, 2000, *Phiri* 3952 (UZL).

***Andropogon textilis* Welw. ex Rendle**

Andropogon roseus Napper

Perennial, erect, up to 1.65 m high, branched above, tinged dark red; ligule acute; racemes solitary; silvery hairy; internodes and pedicels clavate; sessile and pedicelled spikelets more or less same size; grassland and *Brachystegia* woodland. Zambia, Zimbabwe, Angola, and Tanzania.

Malawi. Nyika, 1952, *Jackson* 858 (K).

Aristida junciformis* Trin. & Rupr. subsp. *welwitschii

(Rendle) Melderis ✧

Gongoni three-awn

Perennial, up to 1.4 m high; internode of culm more or less equal, lemma articulation absent, twisted column 2–2.5 mm long, awns 15–20 mm long, subequal; on sandy, black clayey, and serpentine soils, usually in wet areas in grassland, around marshes, on edges of dambos, and termite mounds. Zambia, Zimbabwe, and Angola. A very variable species consisting of several subspecies; both subsp. *macilenta* and subsp. *welwitschii* are recorded for the *Flora zambesiaca* region, but only subsp. *macilenta* is recorded for Malawi in *Flora zambesiaca* (1971).

Source. Brummitt (1973).

Malawi. Nyika National Park, Runyina River, 2000, *Phiri* 3816 (UZL); [subspecies unknown] W. foot of Nganda, 1972, *Synge* 364 (K, MAL, SRGH).

***Aristida recta* Franch.**

Perennial, tufted, dense fibrous base, spikelets small, purple or brown, lemma 3.5–5 mm long, with a short beak, no articulation, awns 5–8 mm long; usually on damp ground in dambos, sometimes on exposed ridges, also in seepage areas in acid mountain grassland. South Africa, Swaziland, Mozambique, Malawi, Zambia, Tanzania, Uganda, and D.R.C., to W. Africa. **Malawi.** Nyika National Park, without locality or collecting details (Mill 1979).

***Aristida textilis* Mez**

Perennial, densely tufted; culms much-branched in their lower part; numerous long leaves; panicle somewhat contracted; spikelets purple or greenish tinged purple, lemma 5 mm long, articulation absent, column 1–5 mm long; on red sandy loam, mainly in *Brachystegia* woodland, also in shady crevices of rocky hills and in grassland. Zambia, Malawi, and Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Arthraxon lancifolius* (Trin.) Hochst.**

Slender annual, usually with trailing culms; raceme internodes hairs long 1–2(3) mm at summit; pedicelled spikelet usually developed, at least in upper parts of raceme; rock exposures and steep banks. Malawi, Mozambique, Zambia, and Zimbabwe to Tanzania, Mali, and Ethiopia; also in Saudi Arabia, India, China, and Indonesia.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Arthraxon micans* (Nees) Hochst. ✧**

Arthraxon hispidus (Thunb.) Makino in *Blumea* 27 (1) 1981 by P.C.

Welzen; *Arthraxon quartianus* (A.Rich.) Nash

Slender annual, trailing; raceme internode hairs sparse and seldom over 0.5 mm long; pedicelled spikelet absent, pedicel reduced to subulate point;

in open *Brachystegia* woodland, in shady glades and path sides in wooded grassland and upland evergreen forests, along river banks, in shady rock crevices. Malawi, Mozambique, and Zambia; tropical Africa, extending through India and Sri Lanka; introduced to central America and the Caribbean.

Malawi. Nyika National Park, 1970, *Brummitt* 10893 (PRE); Juniper Forest, 2000, *Smook* 10873 (PRE, MAL, UZL, SRGH, LMA).

Zambia. Nyika Plateau, Chowo, 1972, *Williamson* 2173a (K).

***Bewsia biflora* (Hack.) Gooss. ✧**

Diplachne biflora Hack.

false love grass; matimbenize

Perennial, tufted; spikelet 3–4 florets, 5.5–9 mm long, oblong, reddish brown, lemma with straight, dorsal awn 1–8 mm long; short grassland, usually in open woodland, on sandy soils and Kalahari sand; also on hill-sides and in submontane grassland; 300–1,830 m. Botswana, Malawi, Mozambique, Zambia, Zimbabwe; South Africa northwards to Tanzania; also Ivory Coast.

Source. *Flora zambesiaca* 10(2): 36 (1999).

Malawi. Nyika Plateau foothills, 1,830 m, 1968, *Simon & Williamson* 1773 (BM, K, SRGH); Jalawe Viewpoint, 2000, *Smook* 10873 (PRE, MAL, UZL, SRGH, LMA).

***Brachiaria bovonei* (Chiov.) Robyns**

Brachiaria viridula Stapf

Perennial, densely tufted, 0.2–1 m high; raceme rachis triquetrous, margins ciliate, spikelets borne singly, 3–4 (–4.5) mm long; damp soils in dambos and by water; 1,000–1,800. Zambia, Zimbabwe, Malawi, Mozambique, and South Africa; also D.R.C. and Kenya.

Source. *Flora zambesiaca* 10(3): 66 (1989).

Malawi. Nyika Plateau, *Salubeni* 374 (K); between Dam #2 and Chelinda River Bridge, 2000, *Smook* 10835 (PRE).

***Brachiaria brizantha* (A.Rich.) Stapf ✧**

Brachiaria brizantha (A.Rich.) Stapf var. *angustifolia* Stent & Rattray

palisade grass, common signal grass

Perennial, tufted, 0.3–2 m high; usually erect; raceme rachis crescentic in section; spikelets 4–6 mm; closely related to and intergrades with another pasture grass, the E. African *B. decumbens*; in savanna woodland and grassland, also commonly grown as a pasture grass. Southern Africa and tropical Africa; introduced elsewhere.

Malawi. Nyika National Park, E. of Thazima Gate, 2000, *Phiri* 3624 (UZL); Chisanga Falls, 2000, *Smook* 10760 (PRE, MAL); Juniper Forest, 2000, *Smook* 10896 (PRE, MAL).

***Brachiaria scalaris* Pilg.**

Annual, 100–600 mm high, decumbent or ascending; raceme rachis triquetrous; spikelets 15–30 mm long; along roadsides and in weedy places; 500–1,500 m. Zambia, Zimbabwe, Malawi to D.R.C. and Ethiopia.

Source. *Flora zambesiaca* 10(3): 75 (1989).

Malawi. Nyika National Park, Jalawe Viewpoint, 2000, *Smook* 10874 (PRE, MAL, UZL, SRGH, LMA).

***Brachyachne fulva* Stapf ✧**

Brachyachne fibrosa C.E.Hubb

Perennial, tufted, erect or geniculate; basal sheaths persistent, splitting into a cushion of densely pilose fibres; racemes (2)3–5(7); spikelet 1-flowered, 3.6–5.3 mm long; in montane grassland, usually amongst rocks or on rocky slopes, in thin soil on flat bare rock, or shallow soil overlying laterite, also in sandy dambos; 1,000–2,130 m. Zambia, Zimbabwe, Malawi, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 10(2): 242 (1999).

Zambia. Nyika Plateau, 2,130 m, 1959, *Robinson* 3081 (BM, K).

***Brachypodium flexum* Nees ✧**

Variable perennial, straggling, often rooting from the nodes, up to 1 m high; racemes usually pendulous with 3–9 spikelets; spikelet 7 to many-flowered, 1.25–4.5 mm long, lemma awned, awn 3–7.5 mm long; in open forests, along forest margins, and in moist shady localities such as streambanks

and river-banks, often rambling over bushes. South Africa, Zambia, Zimbabwe, Malawi, Mozambique, Tanzania, Kenya, Ethiopia, and the Sudan.

Source. *Flora zambesiaca* 10(1): 63 (1971).

Malawi. Nyika National Park, near Juniper Forest, 2000, *Smook* 10899 (PRE, MAL, UZL, SRGH, LMA).

Zambia. Nyika Plateau, 2,130 m, 1959, *Robinson* 3003 (K, SRGH).

Coelachne africana Pilg. ✧

Perennial, mat-forming, creeping base and rooting at nodes; spikelet 2-flowered, both fertile, florets separated by slender internode; lower lemma glabrous except at base, upper lemma pubescent; upland bogs, stream banks, and bordering waterfalls, often in association with *Sphagnum*; 1,300–1,800 m. Zambia, Zimbabwe, Malawi, and northwards to Uganda and Ethiopia; also in Madagascar.

Source. *Flora zambesiaca* 10(3): 195 (1989).

Malawi. Nyika Plateau, Nchena Chena stream, 1949, *Wiehe* N/198 (K).

Ctenium somalense (Chiov.) Chiov. ✧

Perennial, tufted, up to 1 m high; basal sheaths splitting up into a dense mat of fibres, solitary second raceme; spikelets several-flowered, lower 2 barren, 3rd fertile, rest reduced; fertile lemma awned, awn 3.5–5 mm long; rocky hillsides and in sandy plateau grasslands. Zambia, Zimbabwe, Malawi, D.R.C. to Sudan; also in Madagascar.

Source. *Flora zambesiaca* 10(2): 228 (1999).

Zambia. Nyika National Park, Manyanjere Forest, 2000, *Phiri* 4030 (UZL).

Digitaria diagonalis (Nees) Stapf ✧

Digitaria unigulmis (Hochst. ex A.Rich.) Stapf
brown seed finger grass; katsici

Perennial, densely tufted, up to 1.2 m high; base surrounded by densely hairy cataphylls and fibrous leaf sheaths; racemes 10–30; spikelets dark brown; miombo woodland, (degraded) savanna, mountain grassland where often much taller than surrounding grasses, marshes, and wet rocky outcrops. Southern Africa and tropical Africa.

Source. *Flora zambesiaca* 10(3): 141 (1989).

Malawi. Nyika Plateau, 2,250 m, 1961, *Robinson* 4475 (BM, K, PRE, SRGH); Chelinda Dam, 2000, *Chapama* 194 (FRIM); Chosi Viewpoint, 2000, *Phiri* 3529 (UZL); 2000, *Smook* 10728 (PRE, MAL, UZL, SRGH, LMA); 2000, *Mwanyambo* 480 (MAL); 2000, *Kasakula* 201 (MAL); Dembo River Bridge, 2000, *Smook* 10790 (PRE, MAL); road above Chelinda Hill, 2000, *Smook* 10843 (PRE, MAL, UZL, SRGH, LMA).

Zambia. Nyika Plateau, 1968, *Williamson* 928 (SRGH); Rest House area, 2000, *Phiri* 3751 (UZL).

Digitaria longiflora (Retz.) Pers.

Digitaria friesii Pilg.
false couch finger grass

Annual or short-lived perennial, sometimes with a short rhizome, or mat-forming with creeping runners, rooting at nodes; racemes (1)2(4); spikelets (1.2)1.5–2.0(2.2) mm long; disturbed or open sites in miombo woodland, fallow land, and roadsides. Botswana, Zambia, Zimbabwe, Malawi, Mozambique, and South Africa. Widespread in the Old World tropics.

Source. *Flora zambesiaca* 10(3): 166 (1989).

Malawi. Nyika National Parks, road near Chisanga Falls, 2000, *Smook* 10741B (PRE, MAL).

Digitaria maitlandii Stapf

Digitaria apiculata Stent var. *hirta* P.Goetghebeur

Perennial, base with cataphylls and leaf sheath remnants; racemes 3–8, paired or solitary along short axis; spikelets 1.8–2.2 mm; upper lemma dark red brown; in montane grassland. South Africa, Zimbabwe, Malawi, Mozambique, Rwanda, Burundi, D.R.C., Tanzania, and Kenya.

Source. *Flora zambesiaca* 10(3): 146 (1989).

Malawi. Nyika National Park, Lake Kaulime, 1959, *Robinson* 3049 (BM, PRE, SRGH); between Chelinda Hill and Kasaramba Road; 2000, *Smook* 10890 (PRE, MAL, UZL, SRGH).

Digitaria nitens Rendle

Digitaria meliniodes Mez; *Digitaria stolzii* Mez

Perennial, 400–700 mm; base bulbously thickened with woolly cataphylls and remnant leaf sheaths; spikelets (2.5)2.8–3.2(4.1); upper lemma pale yellowish green; close to *D. flaccida* of South Africa; miombo woodland, often degraded, rocky outcrops, and dambos. Zambia, Zimbabwe, Malawi, Mozambique, D.R.C., Tanzania, and Angola.

Source. *Flora zambesiaca* 10(3): 150 (1989).

Malawi. Nyika Plateau, without locality, 1,600 m, 1977, *Pawek* 13347 (SRGH).

Digitaria pearsonii Stapf

Digitaria lancifolia Henrard

Perennial, loosely tufted, some cataphylls present; racemes 7–20, along well-developed axis; spikelets 1.8–2.5 mm long; upper lemma pale yellow to brown sometimes dark brown or tinged purple; easily confused with annual *D. velutina*; in woodland clearings and forest edges. Malawi, Mozambique, Zimbabwe, Angola, D.R.C., Rwanda, Burundi, Uganda, and Tanzania.

Source. *Flora zambesiaca* 10(3): 171–172 (1989).

Malawi. Nyika National Park, near Chosi Viewpoint, 2000, *Smook* 10715 (PRE, MAL, UZL, SRGH, LMA).

Digitaria ternata (A.Rich.) Stapf

black-seed finger grass

Annual; racemes 2–5 on short axis; spikelets 1.9–2.6 mm long; upper lemma pale to dark brown; weed of arable land, disturbed sites. Malawi, Mozambique, Zambia, Zimbabwe, also S. and tropical Africa, extending eastwards to China and Indonesia.

Source. *Flora zambesiaca* 10(3): 142 (1989).

Malawi. Nyika Plateau, 1,800 m, 1978, *Pawek* 14056a (SRGH); on road to Chisanga Falls, 2000, *Smook* 10741A (PRE, MAL); roadside at start of footpath to Chisanga Falls, 2000, *Smook* 10748 (PRE, MAL, UZL, SRGH); Juniper Forest hut, 2000, *Smook* 10924 (PRE, MAL, UZL, SRGH).

Zambia. Nyika Plateau, 1972, *Williamson* 2170 (SRGH).

Diheteropogon amplexens (Nees) Clayton var. **catangensis** (Chiov.) Clayton ✧

Perennial, rhizomatous, tufted, up to 3 m high, erect, often flushed purple; basal leaves narrowly cordate, upper leaves broadly cordate, both tapering into a filiform tip; inflorescence paired racemes gathered into a scanty spathate false panicle; racemes not deflexed; sessile spikelet smaller than pedicelled, callus pungent, deeply inserted into hollow top of internode; secondary forests, grassland, and savanna; sandy and clay soils. Southern Africa, D.R.C., Angola, and Senegal.

Source. *F.T.E.A. Gramineae* (3): 784 (1982)

Malawi. Nyika National Park, near Chisanga Falls, 2000, *Smook* 10755 (PRE, MAL, UZL, SRGH, LMA); near Juniper Forest, 2000, *Smook* 10926 (PRE, MAL, UZL).

Echinochloa jubata Stapf ✧

Annual; racemes with spikelets densely packed, usually congested into a head; spikelets narrowly elliptic, 3–3.5 mm long; on lake and river margins; 0–1,500 m. Southern Africa region to D.R.C.

Source. *Flora zambesiaca* 10(3): 57 (1989).

Malawi. Nyika Plateau, Mwenembwe, 1903, *McClounie* 20 (K).

Ehrharta erecta Lam. var. **abyssinica** (Hochst.) Pilg. ✧

Perennial, straggling, up to 1 m high; panicle narrow; spikelet 5–7 mm long, pilose to almost glabrous, tuft of hairs at base of sterile lemma; in forest openings and forest margins. Malawi, Mozambique, Zimbabwe, through E. Africa to Ethiopia, with isolated records from Yemen and India.

Malawi. Nyika National Park, forest patch near Chelinda River Bridge, 2000, *Smook* 10839 (PRE, MAL); Juniper Forest, 2000, *Smook* 10903 (PRE, MAL, UZL, SRGH, LMA).

Eleusine coracana (L.) Gaertn. subsp. **africana** (Kennedy-O' Bryne) Hilu & De Wet ✧

goose grass, finger millet; kangodza

Annual, robust, often branching at nodes; inflorescence digitate to subdigitate; spikelets several flowered, 4.6–7.8 mm long; disturbed areas

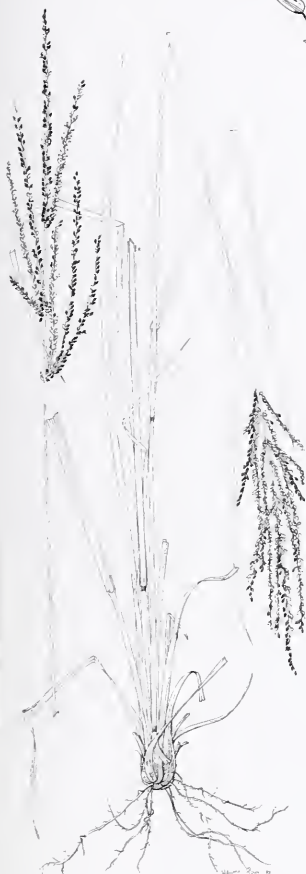


Coelachne africana
Del. Eleanor Catherine



Ctenium somalense
Del. Derek Erasmus

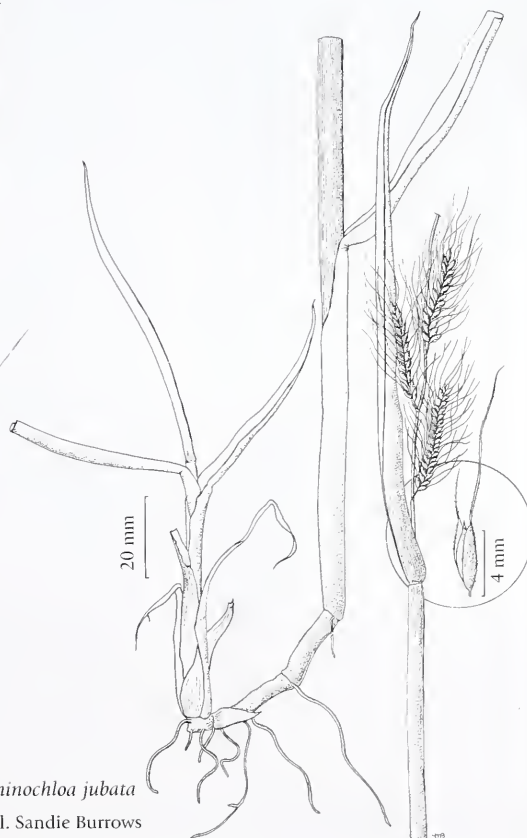
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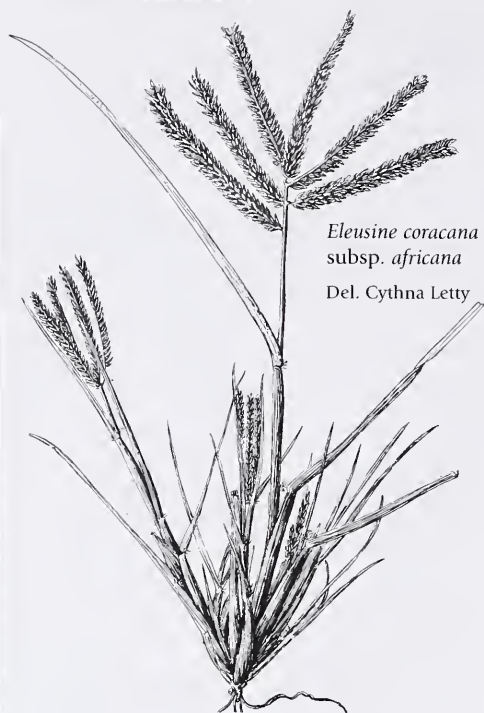
Digitaria diagonalis
Del. Wilma Roux



Diheteropogon amplexens
var. *catangensis*
Del. Wilma Roux



Echinochloa jubata
Del. Sandie Burrows



Eleusine coracana
subsp. *africana*
Del. Cythna Letty



Eragrostis capensis
Del. Clare Smith



Elionurus muticus
Del. Clare Smith



Ehrharta erecta
var. *abyssinica*
Del. Eleanor Catherine



Eragrostis exelliana
Del. Victoria Goaman



Eriochrysis pallida
Del. Cythna Letty

such as roadsides, and often a weed in crops. Mainly in the uplands of eastern and southern Africa and in Arabia.

Source. *Flora zambesiaca* 10(2): 158 (1999).

Malawi. Nyika National Park, Thazima Gate, 2000, *Phiri* 3642 (UZL).

Zambia. Nyika National Park, Gamba School, 2000, *Phiri* 3835 (UZL); western part of Nyika National Park, 2000, *Phiri* 3979 (UZL).

***Elionurus muticus* (Spreng.) Kuntze ❖**

Elyonurus argenteus Nees

wire grass, sour grass

Perennial, densely tufted; raceme silvery to grey or purple; sessile spikelet lower glume entire or divided into 2 teeth up to 7 mm long; in open bush land on dry stony soils, and in montane grasslands, conspicuous 6–8 weeks after burning. Southern and tropical Africa, as well as Yemen; also in tropical and subtropical America. A variable species.

Malawi. Nyika Plateau, path from Rest House to waterfall on N. Rukuru River, 2,000 m, 1958, *Robson & Angus* 456 (PRE).

Zambia. Nyika Plateau, 1962, *Verboom* 751 (PRE).

***Eragrostis botryodes* Clayton**

Eragrostis atrovirens (Desf.) Steud. var. *congesta* Robyns & Tournay

Perennial, tufted, up to 0.9 m; panicle with spikelets densely clustered along distal half of branches, primary branches not whorled; spikelets 3–7(12) × 1.5–2.5 mm, very dark green, glabrous; florets disarticulating from below upwards, rhachilla persistent; damp, swampy river-banks, and watershed grassland. Malawi, Zambia, Zimbabwe, and through eastern tropical Africa.

Source. *Flora zambesiaca* 10(2): 111 (1999).

Malawi. Nyika National Park, N. Rukuru River Bridge near turnoff to Domwe Viewpoint, 2000, *Smook* 10886 (PRE, MAL).

***Eragrostis canescens* C.E.Hubb**

Perennial, densely tufted; panicle branches and branchlets stiff and straight, pedicels flexuous, primary branches not whorled, ending in slender bristle; spikelet leaden grey, not compressed, 2–9 × 2.5–3.5 mm, lemmas usually densely hairy; montane grassland; 1,400–2,440 m. Malawi, Zambia, and Tanzania.

Source. Patel, 1999; *Flora zambesiaca* 10(2): 64 (1999).

Malawi. Nyika Plateau, plateau rim, 2,340 m, 1946, *Brass* 17334 (K, holo.); Kasaramba road, 1975, *Pawek* 9980 (K, SRGH).

***Eragrostis caniflora* Rendle**

Perennial, densely tufted; panicle open, branches not whorled, terminating in fertile spikelet, pedicels filiform, glandular ring below spikelet; spikelet dark brownish red, 2–5 × 1.8–3 mm, rhachilla fragile, lemma pilose with tubercle-based hairs; damp grasslands, seasonally flooded stream banks and lake margins, and in montane grassland; 1,610–2,430 m. Malawi, Zambia, Zimbabwe, Angola, and Tanzania.

Source. *Flora zambesiaca* 10(2): 86 (1999).

Malawi. Nyika Plateau, Chelinda Bridge road, 2,290 m, 1968, *Simon, Williamson & Ball* 1681 (BM, K, SRGH).

***Eragrostis capensis* (Thunb.) Trin ❖**

Eragrostis brizoides (L.f.) Nees; *Eragrostis pseudopoa* sensu Simon
heart-seed love grass

Perennial, tufted; panicle open and spreading or contracted, primary branches not whorled; spikelets plump, brownish green suffused with purple, 3.5–15 × 3–7 mm; florets disarticulating from base upwards, rhachilla persistent; damp, swampy grassland, and wooded grassland, in montane and coastal localities, in sandy or peaty soils; 0–2,290 m. South Africa, Zimbabwe, Malawi, Mozambique, Zambia, Angola, Kenya, Tanzania, D.R.C.; also in Madagascar and Thailand.

Source. *Flora zambesiaca* 10(2): 121 (1999).

Malawi. Nyika Plateau, 1,830 m, 1959, *Robinson* 3101 (BM, K); Dembo River bridge, 2000, *Kasakula* 232 (MAL); 2000, *Smook* 10782 (PRE, MAL).

***Eragrostis castellanea* Buscal. & Muschl.**

Perennial, up to 1.5 m high, panicle loose or dense, spikelet 2–3.5 mm, 4–9-flowered, florets disarticulating from the apex downwards, rhachilla fragile; palea ciliate with tubercle-based hairs 0.5–0.7 mm long; in dambo and

riverine grassland, in long grass beside pans, in sandy and alluvial soils, and in disturbed ground at roadsides and in old cultivated lands. Zimbabwe, Mozambique, Malawi, Zambia, and Tanzania.

Malawi. Nyika National Park, Juniper Forest, 2000, *Chikuni* 500 (MAL); Chisanga Falls slope, 2000, *Mwanyambo* 492 (MAL).

***Eragrostis congesta* Oliv.**

Perennial, tufted; panicle linear with spikelets in globular or ovoid clusters, these distant along the central axis, often uppermost confluent and lowermost branched; spikelets grey-green sometimes flushed with purple, 3–10 × 1.2–2 mm, glabrous, disarticulating from below upwards, rhachilla fragile; in damp, wooded grasslands, and miombo woodland, in sandy soils, often in disturbed ground at roadsides and in old cultivations; 765–1,550 m. Malawi, Zambia, Zimbabwe, and South Africa; also in E. Africa and D.R.C.

Source. Mill (1979); *Flora zambesiaca* 10(2): 121 (1999).

Malawi. Nyika National Park, Chelinda Dam, 2000, *Chapama* 191 (FRIM); near Chosi Viewpoint, 2000, *Smook* 10716 (PRE, MAL, UZL, SRGH); between Dam #2 and Chelinda River bridge, 2000, *Smook* 10837 (PRE, MAL, UZL, SRGH).

Zambia. Nyika Plateau, Chowo Forest, 2000, *Phiri* 3515 (UZL); W. of Chowo Forest, 2000, *Phiri* 3917 (UZL).

***Eragrostis exasperata* Peter**

Annual, loosely tufted, up to 0.9 m high; panicle much-branched, primary branches not whorled, pedicels long, fine; spikelet yellowish green tinged with purple or leaden grey, glabrous, 3–9 × 2.5–3 mm, florets disarticulating from below upwards, rhachilla persistent; in dambo grassland, often in standing water, moist or swampy ground beside streams; 1,300–1,750 m. Malawi, Zambia, Uganda, Kenya, D.R.C., Rwanda, and Burundi. Often mistaken for the perennial *E. paniciformis*.

Source. *Flora zambesiaca* 10(2): 100 (1999).

Malawi. Nyika National Park, road near Chisanga Falls, 2000, *Smook* 10744 (PRE, MAL, UZL).

***Eragrostis exelliana* Launert ❖**

Annual, weak, straggling, usually decumbent; often mat-forming, up to 200(350) mm high spikelets clustered about short, stiff primary branches on stout pedicels, branches not whorled; spikelet 2–5.5 × 2–2.8 mm, dark olive-green sometimes flushed purple, compressed, florets disarticulating from below upwards, rhachilla persistent; montane areas, in peaty grassland and forest clearings, and forming mats over exposed rocks; 1,800–2,600 m. Malawi, Zambia, and Tanzania.

Source. *Flora zambesiaca* 10(2): 113 (1999).

Malawi. Nyika Plateau, Lake Kaulime, 2000, *Phiri* 3725 (UZL); Mpopoti, 2000, *Mwanyambo* 554 (MAL); Dembo Bridge, 2000, *Kasakula* 230 (MAL); near Dembo River bridge, 2000, *Smook* 10798 (PRE, MAL, UZL, SRGH, LMA); Chelinda River bridge, 2000, *Smook* 10812 (PRE, MAL).

Zambia. Nyika Plateau, 2,290 m, 1972, *Williamson* 2171 (K, SRGH); Rest House area, 2000, *Phiri* 3744 (UZL); without locality, 1961, *Robinson* 4525 (K holo., BM, SRGH).

***Eragrostis hispida* K.Schum.**

Eragrostis blepharolepis Hack.

Perennial, densely tufted; panicle branches stiff and straight, spikelets clustered at tips of branches, but usually terminating in a naked bristle, primary branches not whorled, spikelet dark green, pubescent to pilose, rarely glabrous, hairs grey, 2.5–6 × 3.5–4; florets disarticulating from apex downwards, rhachilla fragile; usually on granitic outcrops, in spongy or damp shallow soils over rocks, and in wet sandy soils at the base of rocky outcrops; also in waterlogged soils in damp, marshes, or on river-banks. Malawi, Mozambique, Zambia, Zimbabwe, and Angola; also in Sudan.

Source. Mill (1979); *Flora zambesiaca* 10(2): 63 (1999).

Malawi. Nyika National Park, 25 km from Thazima Gate, 2000, *Smook* 10806 (PRE, MAL, UZL, SRGH, LMA); Chelinda River bridge, 2000, *Smook* 10815 (PRE, MAL, UZL, SRGH, LMA).

***Eragrostis mollior* Pilg. ex R.E.Fr.**

Eragrostis longipaniculata De Wild.

Perennial, densely tufted, up to 1.2 m high; basal sheaths densely woolly-

tomentose, disintegrating into persistent fibres; panicle linear to lanceolate, diffuse or contracted, primary branches not or scarcely whorled, usually ending in a bristle; spikelet olive-green, 2–4 x 2–2.5; florets disarticulating from apex downwards, rachilla fragile; montane grassland, grassland of high-rainfall areas, in open woodland, and disturbed places; 220–2,140 m. Malawi, Mozambique, Zambia, Zimbabwe, Uganda, Tanzania, and D.R.C. **Source.** *Flora zambesiaca* 10(2): 62 (1999).

Malawi. Nyika Plateau, Chisanga Falls, 1,980 m, 1968, *Simon, Williamson & Ball* 1799 (BM, K, SRGH); on road at start of footpath to Chisanga Falls, 2000, *Smook* 10754 (PRE, MAL, UZL, SRGH, LMA); Juniper Forest hut, 2000, *Smook* 10925 (PRE, MAL, UZL, LMA).

Eragrostis olivacea K.Schum.

Perennial, densely tufted, up to 0.9 m high; panicle branches stiff and straight, pedicels filiform, spikelets evenly distributed, primary branches not whorled, ending in a slender bristle or abortive spikelet; spikelet 2.5–4.5 x ca 1.5 mm; dark green to leaden grey, pilose, florets disarticulating from apex downwards, rachilla fragile, palea hairs 0.2–0.5 mm long; in dambos and submontane grasslands; 1,450–1,800 m. Malawi, Mozambique, Zambia; E. Africa, and D.R.C. Similar to *E. canescens*, but *E. olivacea* has scaberulous palea.

Source. *Flora zambesiaca* 10(2): 63 (1999).

Zambia. Nyika Plateau, Rest House area, 2000, *Phiri* 3771 (UZL).

Eragrostis paradoxa Launert

Perennial, tufted, up to 400 mm high; basal leaf sheaths decaying into a cushion of persistent fibres; panicle and pedicels very slender, straight and widely divaricate; spikelet 5.5–8.5 x 3–5 mm, greyish green, glabrous; florets disarticulating from below upwards, rachilla persistent; rocky outcrops, riverine fringes, and montane grassland, in water slicks and wet hollows amongst rocks, and in wet dambos; 1,220–2,480 m. Malawi, Zambia, and Zimbabwe; known only from the *Flora zambesiaca* region.

Source. *Flora zambesiaca* 10(2): 61 (1999).

Malawi. Nyika Plateau, 2,180 m, 1978, *Pawek* 13767 (K, SRGH); Chosi Viewpoint, 2000, *Smook* 10732 (PRE, MAL, UZL, SRGH, LMA); Chelinda River bridge, 2000, *Smook* 10814 (PRE, MAL, UZL, SRGH, LMA).

Zambia. Nyika Plateau, 2,290 m, 1961, *Vesey-Fitzgerald* 2992 (BM, SRGH).

Eragrostis racemosa (Thunb.) Steud.

Eragrostis chalantha Trin; *Eragrostis lasiophylla* K.Schum
narrow heart love grass

Perennial, tufted, up to 0.9 m high; panicle open or more or less contracted, branches stiff; spikelet olive- to dark green, glabrous, 3–10 x 1.5–4.5 mm, lemmas disarticulating from below upwards, rachilla and palea persistent; widespread, in sandveld and in dambos, in plateau and montane grassland and woodlands, in sandy and red doleritic soils, on rocky outcrops and hillsides, and in shallow soils over rocks; also in disturbed ground at roadsides and in old cultivation; 60–2,380 m. Malawi, Mozambique, Zambia, Zimbabwe, and South Africa; also in D.R.C., Sudan, Madagascar, and Arabia.

Source. *Flora zambesiaca* 10(2): 124 (1999).

Malawi. Nyika Plateau, 1,730 m, 1978, *Pawek* 13777 (K, SRGH); Chosi Viewpoint, 2000, *Phiri* 3534 (UZL); 2000, *Smook* 10723, 10724 (PRE, MAL, UZL, SRGH, LMA); Thazima Gate, 2000, *Izidine* 35 (LMA); Chisanga Falls slope, 2000, *Mwanyambo* 489 (MAL); start of footpath to Chisanga Falls, 2000, *Smook* 10751 (PRE, MAL); Sangule Rock area, 2000, *Smook* 10859 (PRE, MAL, UZL, SRGH, LMA).

Zambia. Nyika Plateau, 1962, *Verboom* 719 (K); Rest House area, 2000, *Phiri* 3743 (UZL).

Eragrostis schweinfurthii Chiov.

Annual or short-lived perennial, up to 500 mm, erect or geniculate, wiry and rooting at nodes; panicle branches stiffly spreading; spikelet 4–10 x 1.5–2 mm, olive to dark green, lemmas breaking up from below upwards, rachilla and paleas persistent; similar and can be confused with the more widespread perennial *E. racemosa*; shallow soils, rock outcrops, roadsides, and weedy places, commonly in upland evergreen forests; 1,300–3,000 m. Recorded so far in E. Africa, Ethiopia, and D.R.C.; also in Sri Lanka. This is the first record for *Flora zambesiaca* area and, therefore, Malawi.

Source. *F.T.E.A. Gramineae* (2): 231 (1974); specimens determined at Kew by T. Cope.

Malawi. Nyika National Park, near Chelinda Camp, 2000, *Smook* 10738 (PRE, MAL, UZL, SRGH, K); at Kasaramba turnoff, 2000, *Smook* 10845 (PRE, MAL, UZL, SRGH, LMA, K).

Eragrostis tenuifolia (A.Rich.) Hochst. ex Steud.

Perennial, tufted, up to 700 mm high, basal sheaths strongly compressed; panicle loose and open, primary branches not whorled, spikelets evenly distributed; spikelet dark green, 4–6 x 1–1.5 mm, glabrous, lemmas disarticulating from below upwards, rachilla and paleas persistent; in dambo grassland, riverine vegetation, and in *Acacia* veld on black clay soil; also in disturbed and cultivated ground; 850–2,300 m. Malawi, Mozambique, Zambia, Zimbabwe, eastern South Africa, and throughout tropical Africa; also in tropical Arabia, Madagascar, India, New Guinea, Australia, and S. America.

Source. *Flora zambesiaca* 10(2): 82 (1999).

Malawi. Nyika Plateau, 15 km S.E. of Chisanga Falls, 1,980 m, 1968, *Simon, Williamson & Ball* 1791 (BM, K, MAL, SRGH); on road at start of footpath to Chisanga Falls, 2000, *Smook* 10746 (PRE); Juniper Forest area, 2000, *Smook* 10920 (PRE, MAL, UZL, SRGH, LMA).

Eragrostis volkensii Pilg.

Perennial straggling, slender, wiry culms, up to 1.2 m, erect, procumbent or scandent; leaves all cauline, reflexed, panicle open, primary branches not in whorls; spikelets 3.5–7 x 1.5–4 mm, dark olive-green, glabrous; florets disarticulating from below upwards, rachilla persistent; in montane and dambo grasslands, also swampy grassland next to rivers; 920–2,135 m, common on roadsides or occasionally on rocky areas. Malawi, Mozambique, Zambia, Zimbabwe to South Africa; also in tropical Africa.

Source. *Flora zambesiaca* 10(2): 115 (1999).

Malawi. Nyika Plateau, 1949, *Wiehe* 207 (K, MAL); Chelinda Camp, 2000, *Mwanyambo* 562 (MAL); Dembo River bridge, 2000, *Smook* 10794 (PRE, MAL); Chelinda Bridge, 2000, *Thera* 3029 (MAL); Chelinda River bridge, 2000, *Smook* 10811 (PRE, MAL, UZL, SRGH, LMA).

Zambia. Nyika Plateau, 1962, *Verboom* 709 (K).

Eriochrysis pallida Munro ✧

Perennial, up to 0.9 m high; sessile spikelet 3.5–5 mm long; callus hairs tawny and longer than spikelet; swampy places; 1,200–1,800 m. South Africa, Botswana, Zimbabwe, Malawi, Zambia, Angola, and Tanzania.

Source. *F.T.E.A. Gramineae* (3): 706 (1982).

Malawi. Nyika National Park, Dam #2 near Chelinda Camp, 2000, *Smook* 10829 (PRE, MAL, UZL, SRGH, LMA).

Eriochrysis purpurata (Rendle) Stapf

Perennial, forming dense tussocks, up to 600 mm; sessile spikelet 5–7 mm long, callus hairs tawny and shorter than spikelet; wet hollows and swampy places; 1,500–2,340 m. Zimbabwe, Malawi, Zambia, Angola, and Tanzania.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999); Lake Kaulime, 1970, *Brummitt* 10804 (K).

Eulalia villosa (Thunb.) Nees ✧

Perennial, tufted, racemes, terminal, 1–20 subdigitate, conspicuously hairy, hairs white or purple, internodes and pedicels linear; paired spikelets alike; wet grassland, montane grasslands or, if below 1,600 m, in deciduous woodlands or swamp edges. Southern and E. Africa; also in Madagascar and India.

Source. *F.T.E.A. Gramineae* (3): 711 (1982)

Malawi. Nyika Plateau, circular route near Nganda, 1968, *Simon, Williamson & Ball* 1759 (PRE); Runyina River Road, 2000, *Phiri* 3783 (UZL).

Exotheca abyssinica (A.Rich.) Andersson ✧

unicorn grass

Perennial, densely tufted, up to 2 m high; sessile spikelet terete, 12–15 mm long (including callus) callus pungent, upper lemma awn stout, 6–10 mm long; upland grassland and moorland; dominant in the montane grasslands of the Nyika (Lemon 1964), often co-dominant with *Andropogon schirensis*



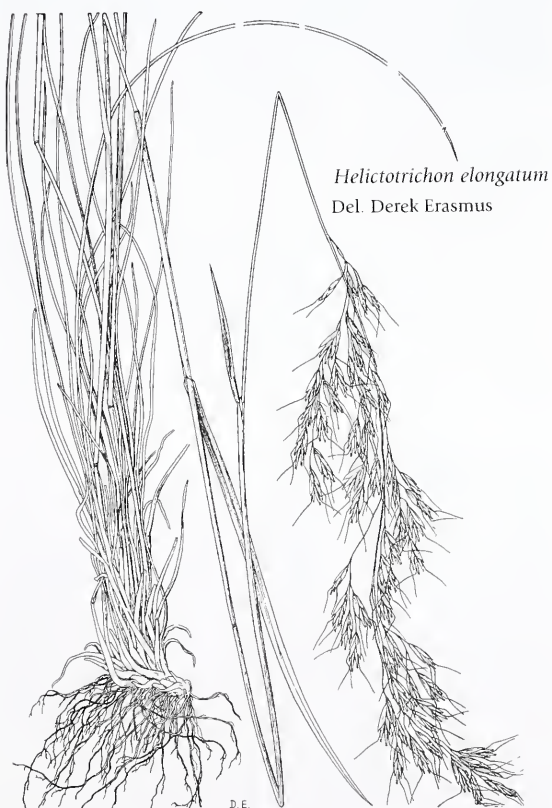
Eulalia villosa
Del. Wilma Roux



Exothea abyssinica
Del. Sandie Burrows



Festuca engleri
Del. Sandie Burrows



Helictotrichon elongatum
Del. Derek Erasmus

and *Monocymbium ceresiiforme*. Malawi and Zambia to E. Africa, Ethiopia, and Sudan; also in Vietnam.

Source. Mill (1979); *F.T.E.A. Gramineae* (3): 711 (1982).

Malawi. Nyika National Park, Chosi Viewpoint, 2000, *Phiri* 3528 (UZL); 2000, *Smook* 10722 (PRE, MAL, UZL, SRGH).

Zambia. Nyika National Park, Rest House area, 2000, *Phiri* 3731 (UZL).

***Festuca abyssinica* A.Rich.**

Festuca schimperana A.Rich.

Variable perennial, up to 0.8 m high; geniculate, straggling rarely erect; panicle dense often spike-like; spikelet 6.5–10(12) mm long; 2- to 6-flowered, lemma awned, awn up to 5 mm long; in mountain grassland, in moist and often peaty soils; commonly growing with *Exotheca* (Lemon 1964). Malawi, Mozambique, Zambia, Zimbabwe to Cameroon, Ethiopia, and E. Africa.

Source. *Flora zambesiaca* 10(1): 55 (1971).

Malawi. Nyika National Park, Chelinda, 1967, *Salubeni* 733 (BM, SRGH); near Chosi Viewpoint, 2000, *Smook* 10719 (PRE, MAL, UZL, SRGH).

***Festuca africana* (Hack) Clayton**

Pseudobromus silvaticus K.Schum.

Perennial, short knotty rhizome, up to 1.25 m high; panicle lax, open; spikelet 7–10 mm, 1-flowered with rachilla extension; awned, awn (8) 14–20 mm long; in evergreen forest in light shade, on stream banks in forest, and on forest floors. South Africa, Malawi, Mozambique, Zambia, E. Africa, and Sudan.

Source. *Flora zambesiaca* 10(1): 52 (1971).

Malawi. Nyika Plateau, 3.2 km S.W. of Rest House, 1958, *Robson* 199 (BM, K, LISC).

Zambia. Nyika Plateau, Chowo Forest, 1968, *Williamson* 1011 (BM, K, LISC); Manyanjere Forest, 2000, *Phiri* 3909 and 4049 (UZL).

***Festuca caprina* Nees**

Perennial, densely tufted, up to 1 m high; lower leaf sheaths persistent, splitting into brown fibres; panicle open, spikelet 10–15 mm long, lemma awned, awn 1–3 mm long; in montane grassland above 1,800 m, often in valley bottoms near streams. South Africa, Zimbabwe, Malawi, and Tanzania.

Source. *Flora zambesiaca* 10(1): 57 (1971).

Malawi. Nyika Plateau, 1949, *Hawthorn* GHS 22682 (K, SRGH).

***Festuca costata* Nees**

Festuca milaniana Rendle
tussock fescue

Perennial, densely tufted, up to 1.5 m high, basal leaf sheaths splitting into coarse fibres; panicle open; spikelet 10–20 mm long, lemma acute or minutely awned; montane grassland sometimes in forest clearings. South Africa, Zimbabwe, Malawi, Mozambique, northwards to eastern Africa. Not recorded from Malawi (N) in *Flora zambesiaca* (1971) and this record should therefore be regarded with some caution.

Source. *Flora zambesiaca* 10(1): 55 (1971).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Festuca engleri* Pilg. ✧**

Pseudobromus engleri (Pilg.) Clayton; *Pseudobromus brassii* C.E.Hubb. [Type: Nyika Plateau, *Brass* 17282 (K, holo.; SRGH, iso.)].
false brome grass

Perennial, tufted, up to 1.8 m high; spikelet 8–12 mm long, lemma awn 10–16 mm; in openings of montane forests, often along forest streams. Zimbabwe, Malawi, and Tanzania.

Source. *Flora zambesiaca* 10(1): 52 (1971).

Malawi. Nyika National Park, Juniper Forest, 2000, *Smook* 10900 (PRE, MAL, UZL, SRGH, LMA); at river at Juniper Forest, 2000, *Smook* 10927 (PRE).

***Helictotrichon elongatum* (A.Rich.) C.E.Hubb ✧**

chamasala

Perennial, tufted, up to 1.5 m high, erect or geniculate; lower leaf sheaths

persistent often tinged with brown; panicle usually loose and open; spikelets 8–14 mm long, green to purplish, lemma central awn up to 20 mm long, geniculate, twisted beneath bend; in damp places in open woodland and mountain grassland, often along streams or in drainage channels, or on river-banks. Zimbabwe, Malawi, Zambia, to E. Africa, Ethiopia, Sudan, Camerouns, and D.R.C.; also Madagascar.

Source. *Flora zambesiaca* 10(1): 79 (1971).

Malawi. Nyika Plateau, Lake Kaulime, 2,150 m, 1958, *Robson* 334 (BM, K, LISC, PRE, SRGH); Thazima Road, 2000, *Phiri* 3610 (UZL); circular road Chelinda Camp to Dembo River bridge, 2000, *Smook* 10777 (PRE, MAL, UZL, SRGH, LMA); 2000, *Smook* 10797 (PRE, MAL, UZL); Juniper Forest, 2000, *Smook* 10897 (PRE, MAL, UZL, SRGH); between Chelinda Hill and Juniper Forest, 2000, *Smook* 10930 (PRE).

***Helictotrichon milanjanum* (Rendle) C.E.Hubb**

Perennial, rhizomatous, up to 1.25 m high; lower leaf sheath persistent, golden brown; spikelet 12–15 mm long, green, lemma awn up to 22 mm long, geniculate, but not twisted much; in moist places in mountain forests, damp kloofs, and in bamboo thickets. Throughout E. tropical Africa from Ethiopia to Uganda and extending into D.R.C. and Malawi.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Chelinda Bridge, 2000, *Smook* 10813 (PRE, MAL, UZL, SRGH, LMA).

***Heteropholis sulcata* (Stapf) C.E.Hubb ✧**

Perennial, short scaly rhizome, up to 1.2 m high; inflorescence single axillary raceme, internodes thickened, clavate; sessile spikelet more or less embedded in internode; sessile spikelet strongly areolate on back; in wooded grassland and miombo woodland. Malawi, Zambia, Tanzania, and D.R.C.

Zambia. Nyika National Park, near Kaperekezi Gate, 2000, *Phiri* 3837 (UZL).

***Heteropogon contortus* (L.) Roem. & Schult. ✧**

spear grass, tanglehead; nsanu, sucho, nyuni

Perennial, tufted, up to 1 m high, erect, basal sheaths laterally compressed; racemes solitary or aggregated into a false panicle, homogamous spikelets in lower quarter to two-thirds; awns forming a twisted spire; callus pungent; a very variable species; deciduous bush land and wooded grassland; often the dominant species in open grassy places on dry soils. Widespread in the tropical and warm temperate regions of Africa.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Homozeugos eylesii* C.E.Hubb ✧**

Perennial, tufted, up to 2 m high; 1–4 racemes, digitate, white villous; internodes and pedicels linear; paired, alike spikelets on fragile rachis; in *Brachystegia* wooded grassland. Malawi, Zambia, and Tanzania.

Malawi. Nyika National Park, near Chisanga Falls, 2000, *Smook* 10758 (PRE, MAL, UZL, SRGH, LMA).

***Hyparrhenia anamesa* Clayton**

Perennial, densely tufted, up to 1.2 m high, inflorescence of paired, short racemes subtended by spatheole, crowded together in leafy false panicle, racemes white villous, not deflexed, raceme-bases unequal; 4–6(7) awns per raceme pair, awn pubescent with hairs 0.1–0.6 mm long; in dry soils and open places. South Africa to Ethiopia and Sudan.

Source. Clayton (1969).

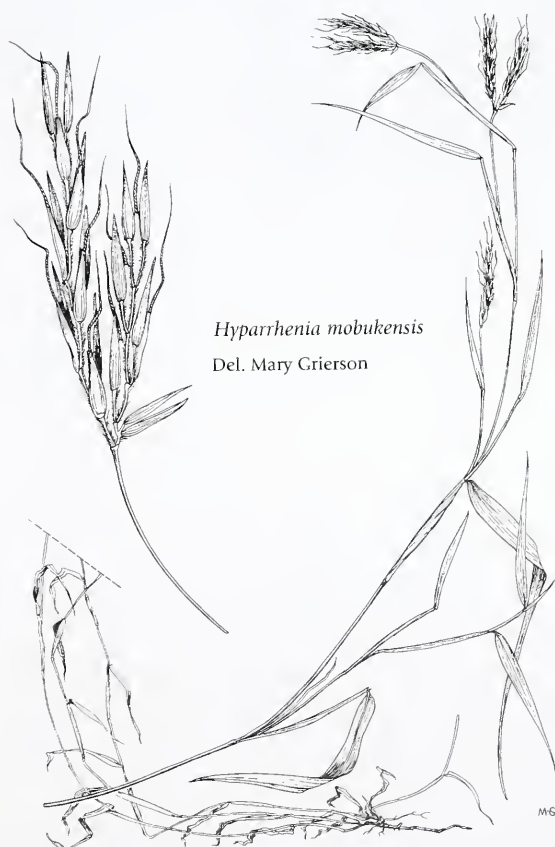
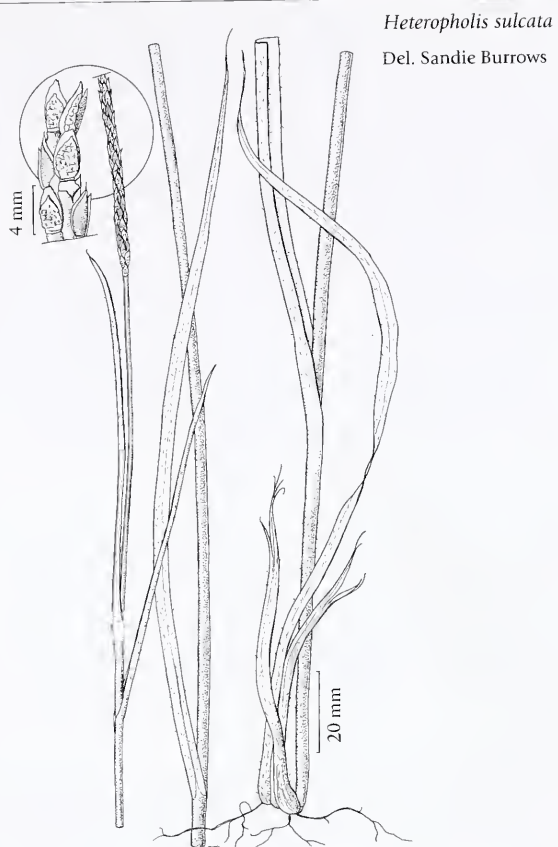
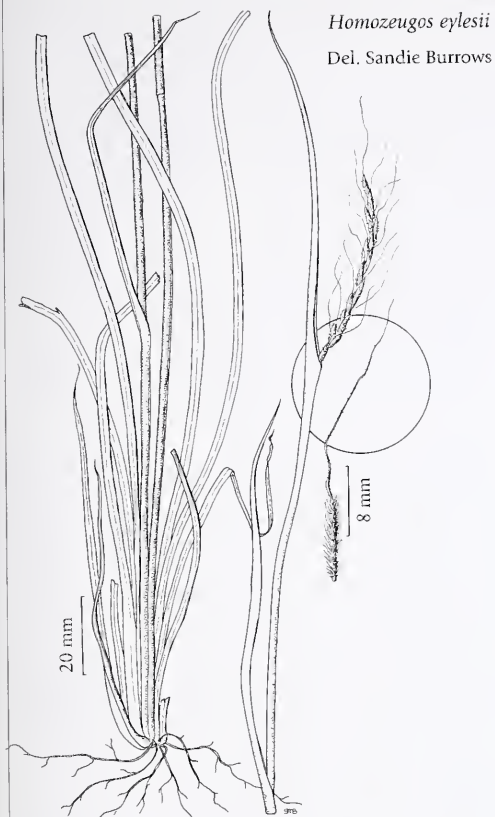
Malawi. Nyika Plateau, *Jackson* 525 (K).

***Hyparrhenia cymbaria* (L.) Stapf**

boat thatching grass

Perennial, initially slender and rambling becoming erect and robust, with stilt roots; inflorescence of paired, short racemes subtended by spatheole, crowded together in leafy false panicle; spatheole boat-shaped, bright russet red at maturity, racemes deflexed, bases subequal, 3–5(6) awns per raceme pair; wooded grassland and on open hillsides bordering upland evergreen forests. South Africa to Eritrea and Cameroon; also in Madagascar and the Comores.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Runyina River, 2000, *Phiri* 3793 (UZL); Juniper Forest, 2000, *Smook* 10898 (PRE, MAL, UZL, SRGH, LMA); 2000, *Smook* 10907 (PRE, MAL).



***Hyparrhenia dregeana* (Nees) Stent ❖**

Perennial, robust, up to 2 m high; basal leaf sheaths silky pubescent below; inflorescence of paired, short racemes subtended by narrowly lanceolate spatheole, crowded together in leafy false panicle; raceme-bases subequal; 10–20 awns per raceme pair; awns short; in upland grassland. Southern Africa to E. Africa, Ethiopia, and Sudan.

Malawi. Nyika National Park, without locality or collecting (Mill 1979); Nganda Base Camp, 1997, *Patel & Ludlow 5003* (K); near Domwe, 2000, *Kasakula 250* (MAL); Dembo River bridge, 2000, *Smook 10789* (PRE); Chelinda River bridge, 2000, *Smook 10808* (PRE).

Hyparrhenia filipendula* (Hochst.) Stapf var. *filipendula

fine thatching grass

Perennial, up to 2 m high; in inflorescence of paired, short racemes subtended by linear spatheoles; racemes not deflexed, bases unequal; 2–4 awns per racemes pair; sessile spikelet glabrous. Tropical and South Africa, but mainly on the eastern side, Madagascar, eastwards through Sri Lanka to Australia.

Malawi. Nyika National Park, Juniper Forest, 2000, *Smook 10908* (PRE, MAL, UZL, SRGH, LMA).

***Hyparrhenia formosa* Stapf**

Perennial, robust, up to 2 m high, sometimes stilt roots present; inflorescence of paired, short racemes subtended by spatheole crowded together in leafy false panicle; russet or tinged with purple and red lanceolate spatheoles; racemes deflexed, bases subequal; 6–8 awns per raceme pair; similar to *H. cymbaria* and *H. pilgeriana*; in upland grassland and deciduous bush land, on streamsides. Malawi to Ethiopia and D.R.C.; also in Yemen.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Hyparrhenia mobukensis* (Chiov.) Chiov. ❖**

Perennial, slender, wiry, trailing; inflorescence of paired, short racemes subtended by linear spatheoles in a leafy scanty false panicle; rarely racemes single; racemes not deflexed, bases unequal; 7–15 awns per raceme pair, only species in the genus with glabrous awns; in short grassland. The mountains and highland plateaux of tropical Africa, including Nyika, Ruwenzori, Mt. Elgon, Aberdares, and Mt. Kilimanjaro.

Source. Clayton (1969).

Malawi. Nyika Plateau, eastern side, 1959, *Robinson 3080* (K); Dembo River bridge, 2000, *Smook 10793* (PRE); Chelinda River bridge, 2000, *Smook 10817* (PRE, MAL, UZL, SRGH, LMA).

Zambia. Nyika Plateau, Chire River, 1968, *Williamson 1028* (K).

***Hyparrhenia newtonii* (Hack.) Stapf var. *macra* Stapf**

Perennial, densely tufted, up to 2.1 m high, erect; inflorescence of paired, short racemes subtended by narrowly lanceolate spatheoles crowded together in leafy false panicle; racemes deflexed, bases unequal; 2–4 awns per raceme pair; sessile spikelet pubescent to villous, pedicelled spikelet sometimes villous; in northern part of its range it occurs mainly on lithosols and stony hillsides; to the S. it is found mainly in dappled shade beneath *Brachystegia* woodland. South Africa, Zimbabwe, Malawi, Mozambique, Zambia, Angola, D.R.C., Rwanda, Uganda, and Tanzania.

Source. Clayton (1969).

Malawi. Nyika Plateau, *Jackson 531* (K); Chosi Viewpoint, 2000, *Smook 10730* (PRE, MAL); forest near Sangula Kopje, 2000, *Smook 10860* (PRE, MAL, UZL, SRGH, LMA).

Hyparrhenia newtonii* (Hack.) Stapf var. *newtonii

Perennial, densely tufted, up to 2.1 m high, erect; inflorescence of paired, short racemes subtended by narrowly lanceolate spatheoles crowded together in leafy false panicle; racemes deflexed, bases unequal; 2–4 awns per raceme pair; sessile spikelet glabrous sometimes thinly pilose near apex, pedicelled spikelet glabrous; in northern part of its range it occurs mainly on lithosols and stony hillsides; to the S. it is found mainly in dappled shade beneath *Brachystegia* woodland. Widespread in tropical Africa; also in Madagascar, Thailand, and Indonesia.

Source. Clayton (1969).

Malawi. Nyika National Park, footpath to Chisanga Falls, 2000, *Smook 10764* (PRE, MAL, UZL, SRGH, LMA).

Zambia. Western part of Nyika National Park, 2000, *Phiri 3942* (UZL); Rest House area, 2000, *Phiri 3769* (UZL).

***Hyparrhenia nyassae* (Rendle) Stapf**

Nyassa hood grass

Perennial, up to 2 m high; basal leaf sheaths usually woolly tomentose with white hairs; inflorescence of paired, short racemes subtended by linear, russet spatheoles crowded together in leafy false panicle; tardily and imperfectly deflexed, bases unequal; 8–13 awns per raceme pair; sessile spikelet densely yellow hairy; savanna woodland, particularly moist places and swamp edges; resembles *H. rufa*; may accompany *Loudetia simplex* in swamps. Southern Africa, tropical Africa from Cameroon to Sudan; also in Thailand and Vietnam

Malawi. Nyika National Park, Rumph Bridge, 1975, *Pawek 9257* (K); Runyina River, 2000, *Phiri 3806* (UZL); Dembo River bridge, 2000, *Smook 10784* (PRE, MAL, UZL, SRGH, LMA).

***Hyparrhenia pilgeriana* C.E.Hubb**

Perennial, laxly tufted, slender and rambling, inflorescence of paired, short racemes subtended by lanceolate spatheoles crowded together in leafy false panicle, panicle usually scanty; not or tardily deflexed, bases subequal to unequal; (4)6–7 awns per raceme pair; a species of seasonal swamps and forest margins; also of grassy hillsides and cultivated land, these perhaps being secondary habitats to which it extends when opportunity offers. South Africa to Ethiopia and Sudan.

Source. Clayton (1969).

Malawi. Nyika Plateau, *Jackson 529* (K); near Chosi Viewpoint, 2000, *Smook 10717* (PRE, MAL, UZL, SRGH); 2000, *Smook 10718* (PRE, MAL, UZL, SRGH, LMA).

***Hyparrhenia rufa* (Nees) Stapf**

nyumbi, cipepati

Perennial, sometimes annual; up to 2.5 m high; inflorescence of paired, short racemes subtended by linear-lanceolate spatheoles crowded together in leafy false panicle; not or rarely deflexed, bases unequal, sometimes more or less connate; (7)9–14 awns per raceme pair; sessile spikelet glabrous to pubescent, but usually scantily covered with rufous hairs; in deciduous bush land and wooded grassland, often preferring moist sites. Tropical and southern Africa and Madagascar; introduced into tropical America and Australia. A variable species with specimens verging towards *H. poecilotricha* and *H. dichroa*.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Hyparrhenia schimperi* (A.Rich.) Stapf**

Perennial, robust, up to 4 m high; inflorescence of paired short racemes subtended by lanceolate, russet-brown spatheoles crowded together in leafy false panicle; at length deflexed, bases subequal; 6–8 awns per raceme pair; in open, often moist places in savanna grasslands. Southern Africa to Ethiopia; also in Madagascar.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Dembo Bridge, 1975, *Pawek 9302* (K).

***Hyparrhenia variabilis* Stapf**

Perennial, with hard cataphylls, up to 3 m high, inflorescence of paired short racemes, subtended by boat-shaped, russet red tinged yellow and green spatheole crowded together in leafy false panicle; racemes deflexed, bases subequal; 5 awns per raceme pair; deciduous bush land and wooded grassland, margins of upland evergreen forests. Southern Africa to E. Africa; also in Madagascar, Comoros, and Java.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Hyparrhenia welwitschii* (Rendle) Stapf**

Annual, up to 3 m high, often stilt roots present; inflorescence of paired, short racemes subtended by narrowly lanceolate spatheole crowed together in leafy false panicle; racemes deflexed, bases subequal; sessile spikelet with white hairs; 3 awns per raceme pair; light to deep shade in wooded grassland such as *Brachystegia* wooded grassland in soils with adequate mois-



Hyparrhenia dregeana
Del. Eleanore Catherine



Imperata cylindrica
Del. Clare Smith



Isachne mauritiana
Del. Sandie Burrows



Koeleria capensis
Del. Derek Erasmus



Leersia hexandra
Del. Clare Smith

Leptocarydion vulpiastrum
Del. Wilma Roux



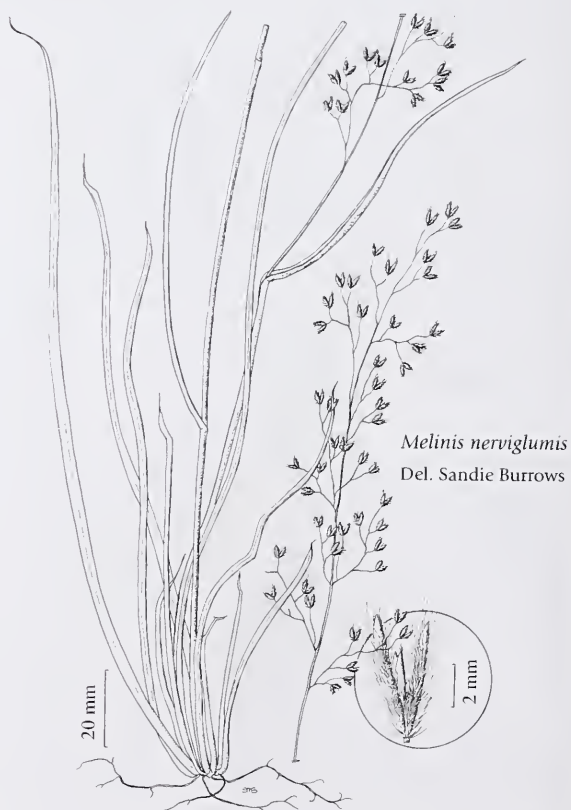
Loudetia simplex
Del. Wilma Roux



Melinis ambigua
subsp. *ambigua*
Del. Margaret Tebbs



Merxmuellera davyi
Del. Derek Erasmus



Melinis nerviglumis
Del. Sandie Burrows

ture, occasionally in light sandy soils. Malawi, Mozambique, Zambia, and Zimbabwe; W. tropical Africa from Guinea to Angola and northwards to Sudan; also on the Comores.

Malawi. Nyika National Park, without locality or collecting details (Patel 1997).

***Imperata cylindrica* (L.) Raeusch. ❖**

cotton grass, cottonwool grass, silver spike; namsongole

Perennial, rhizomatous, erect, up to 1.2 m high; stiff leaf blades, erect with purple margins and sharp points; inflorescence a silky, white spiciform panicle; spikelet alike, paired; an aggressive weed of disturbed and cultivated places, flowering soon after burning, common at various altitudes. Throughout the Old World tropics, extending to the Mediterranean and Middle East; also in Chile.

Malawi. Nyika Plateau, 6 miles S.W. of Rest House, 1958, *Robson 364* (PRE).

***Isachne angolensis* Rendle**

Chirinda grass

Perennial, rambling, base prostrate; inflorescence a panicle; spikelet 1.5–2 mm long, elliptic, usually 2-flowered, florets bisexual; marshy places in forests; 600–2,300 m. Malawi and Zambia; also western Africa from Angola to Nigeria.

Source. Brummitt (1973).

Malawi. Nyika National Park, Sawi Valley, 1972, *Synge 461* (K, MAL).

***Isachne mauritiana* Kunth ❖**

Isachne aethiopica Stapf & C.E.Hubb.

Perennial, rambling, base prostrate; inflorescence a panicle; spikelet 1.2–1.8 mm long, obovoid; usually 2-flowered, florets bisexual; forest shade; 1,000–2,000 m. Malawi, Mozambique, Zambia, and Zimbabwe, northwards to Kenya and Ghana; also in Mauritius and Madagascar.

Source. *Flora zambesiaca* 10(3): 193 (1989).

Malawi. Nyika Plateau, submontane forest, without locality or collecting details (Dowsett-Lemaire 1985).

Zambia. Nyika Plateau, 1962, *Verboom 713* (K); Manyenjere Forest, 2000, *Phiri 3905* (UZL); Chowo Forest, 2000, *Phiri 4003* (UZL).

***Koeleria capensis* (Steud.) Nees ❖**

Koeleria cristata sensu A.Rich.

June grass

Perennial, very variable, up to 0.9 m high; panicle more or less condensed, spike-like; spikelets 4–7 mm long, 2- to 5-flowered; in open high-altitude grassland, on acid humic soil, often on rocks and steep slopes, or depressions of moist ground, often dominant. Southern Africa to E. Africa, Ethiopia, and Cameroon.

Source. *Flora zambesiaca* 10(1): 71 (1971).

Malawi. Nyika Plateau, 1949, *Hawthorn in GHS 22685* (K, SRGH).

Zambia. Nyika Plateau, 1968, *Williamson 1015* (BM, K).

***Leersia hexandra* Sw. ❖**

rice grass; likakadzi, nakache

Perennial, rhizomatous, erect, but often decumbent; up to 1 m high; panicle open; spikelet 3.2–5.2 mm long; strongly laterally compressed; falling entire from pedicel, 1-flowered, conspicuous cilia, 0.2–0.8 mm on keels; grows in a large variety of moist habitats, in shallow water, often forming extensive mats on floodplains and in swamps. A pantropical grass.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Leptocarydion vulpiastrum* (De Not) Stapf ❖**

spade grass; kalingamunyu

Annual, up to 1.2 m tall; panicle feathery, pallid or tinged with red or purple; spikelet 5–9 mm long, 5–14-flowered; usually a weed of disturbed and cultivated ground; also in open and wooded grassland, on lake shores, in dambos, and riverine vegetation, growing in sandy soils and red dolerite loams; 45–1,280 m. South Africa, Namibia, Botswana, Zimbabwe, and Mozambique. Known from Malawi, but may be first record for Nyika.

Malawi. Nyika National Park, Chisanga Falls, 2000, *Mwanyambo 486* (MAL).

***Loudetia arundinaceae* (A.Rich.) Steud.**

Perennial, tufted, up to 3 m high; basal leaf sheaths more or less silky pubescent; panicle branches spreading and whorled; spikelet 6–13 mm long, glabrous or tuberculate setose, awned, callus truncate; *Brachystegia* woodland, sometimes on the margins of drainage tracts. Mozambique, Zambia, Angola, northwards to Senegal and Ethiopia. Not recorded for Malawi in *Flora zambesiaca* (1989).

Malawi. Nyika National Park, without locality or collecting details (Patel 1999).

***Loudetia simplex* (Nees) C.E.Hubb. ❖**

common russet grass

Perennial, tufted, up to 1.5 m; basal leaf-sheaths usually becoming fibrous, typically woolly-tomentose sometimes silky pubescent to glabrescent; panicle branches seldom whorled; spikelet 8–14 mm long, glabrous or tuberculate setose; callus 2-toothed; in wooded grassland, on both stony and seasonally waterlogged soils; dominant of montane grasslands; 1,000–2,500 m; grazed by hartebeest, reedbeek, eland, roan antelope, and zebra (Lemon 1964). Southern Africa, Malawi, Mozambique, Zambia, and Zimbabwe; also Madagascar.

Source. *Flora zambesiaca* 10(3): 220 (1989).

Malawi. Nyika National Park, Chisanga Falls, 2000, *Chapama 163* (FRIM); Thazima, 2000, *Izidine 33* (LMA); Thazima Gate towards Chelinda, 2000, *Mwanyambo 515* (MAL); Chosi Viewpoint, 2000, *Smook 10725* (PRE, MAL, UZL, SRGH, LMA); Dembo Bridge, 2000, *Thera 3020* (MAL); near Domwe, 2000, *Kasakula 249* (MAL).

Zambia. Nyika National Park, Chowo Forest, 2000, *Phiri 3516* (UZL).

***Melinis ambigua* Hack. subsp. *ambigua* ❖**

Perennial, up to 1.5 m high; panicle narrowly ovate; spikelet 2–3.4 mm long, laterally compressed, 2-flowered, lower floret male or barren, upper glume awn (0.1)0.8–4.5 mm long; in open *Brachystegia* woodland or grassland at higher elevations; often at anthropogenic sites and streamsides; sandy or stony soils; 1,000–2,500 m. Zimbabwe, Malawi, Mozambique, Zambia, Namibia, Angola, Ethiopia, Tanzania, Burundi, and D.R.C.

Source. *Flora zambesiaca* 10(3): 121 (1989).

Malawi. Nyika National Park, Chosi Viewpoint, 2000, *Smook 10727a* (PRE, MAL, UZL, SRGH); N. Rukuru River Bridge near turnoff to Domwe River, 2000, *Smook 10884* (PRE, MAL, UZL, SRGH, LMA).

***Melinis ambigua* Hack. subsp. *longicauda* (Mez) Zizka**

Rhychelytrum longicaudum (Mez) Chiov.; *Melinis longicauda* (Mez)

Stapf & C.E.Hubb

Perennial, up to 1.5 m high; panicle narrowly ovate; spikelet (2.7)3.3–4.4(5.2) mm long; laterally compressed, 2-flowered, lower floret male or barren, upper glume awn (1.8)3.5–8.3 mm long; secondary grassland at higher elevations, rarely *Brachystegia* woodland or anthropogenic sites; 1,000–2,500 m. Zimbabwe, Malawi, Mozambique, Zambia, Angola, D.R.C., Rwanda, and Tanzania.

Malawi. Nyika Plateau, 1969, *Pawek 2098* (K); Chosi Viewpoint, 2000, *Smook 10727b* (PRE, MAL, UZL); path to Chisanga Falls, 2000, *Smook 10769* (PRE, MAL, UZL).

Zambia. Nyika National Park, western part of Park, 2000, *Phiri 3948* (UZL).

***Melinis macrochaeta* Stapf & C.E.Hubb**

Annual or short-lived perennial, tufted, often rooting at nodes, up to 1.5 m; panicle narrowly ovate, pedicels glabrous; spikelet 1.5–2 mm long, 2-flowered, lower floret barren; lower lemma awn 8 mm long; in grassland or *Brachystegia* woodland, often in disturbed places or near streams; 800–1,800 m. South Africa, Zimbabwe, Malawi, Mozambique, Zambia, and throughout tropical Africa.

Source. *Flora zambesiaca* 10(3): 124 (1989).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Melinis minutiflora* P.Beauv.**

Melinis tenuinervis Stapf

Perennial, tufted, up to 1.5 m high; hairy, strong smell of linseed oil; inflorescence a panicle; pedicels scarious; spikelet (1.5)1.7–2.2(2.4) mm long;

upper glume deeply grooved between prominent nerves; lower lemma awnless or awn up to 14 mm long; grassland or *Brachystegia* woodland at higher elevations, and in montane forest, often at anthropogenic sites; (300) 1,000–2,300 m. Malawi, Mozambique, Zambia, Zimbabwe, and South Africa.

Source. *Flora zambesiaca* 10(3): 123 (1989).

Malawi. Nyika National Park, Chisanga Falls, 2000, *Kasakula* 206 (MAL).

Zambia. Nyika Plateau, 1968, *Williamson* 930 (SRGH).

Melinis nerviglumis (Franch.) Zizka ❖

Rhynchelytrum nerviglume (Franch.) Chiov.; *Rhynchelytrum setifolium* (Stapf) Hack.

bristle-leaved red top

Perennial, up to 1.5 m high; leaves usually setaceous; panicle narrowly ovate; spikelet 3.2–5(5.7) mm long; usually hairy; in grassland and *Brachystegia* woodland; 1,000–3,000 m. South Africa, Zimbabwe, Malawi, Mozambique, Zambia, northwards to Kenya and Gabon; also in Madagascar, Thailand, and Vietnam.

Source. *Flora zambesiaca* 10(3): 126 (1989).

Malawi. Nyika National Park, path to Chisanga Falls, 2000, *Smook* 10758b (PRE, MAL, UZL, SRGH, LMA).

Melinis repens (Willd.) Zizka var. **nigricans** (Mez) Zizka

Annual, tufted, up to 1.6 m high; spikelet 3–4.5(5) mm long, dark olive-green, rarely green to straw-coloured, hairy to rarely glabrous; lower glumes separated from upper by internode, upper glume and lower lemma not beaked; on anthropogenic sites and embankments. Malawi, Mozambique, Zambia, Zimbabwe; Angola, D.R.C., and Tanzania. Very variable, with four weakly separated subspecies. Typical specimens can easily be identified, but frequent intergradation occurs between the intraspecific groups.

Source. *Flora zambesiaca* 10(3): 126 (1989).

Malawi. Nyika National Park, Juniper Forest, 2000, *Smook* 10919 (PRE, MAL, UZL, SRGH, LMA).

Merxmüllera davyi (C.E.Hubb) Conert ❖

Danthonia davyi C.E.Hubb as *Rytidosperma davyi* (C.E.Hubb) Cope in *Flora zambesiaca* 10(2): 7 (1999).

Davy oargrass

Perennial, up to 1.2 m high; panicle loose to somewhat contracted; spikelet 12–16 mm long, 3- to 10-flowered, lemma with 2–3 tufts of hairs near margins and middle of back, central awn geniculate, up to 12.5 mm long; in xeric, rocky, montane grassland. South Africa through Malawi northwards to central Africa.

Source. *Flora zambesiaca* 10(2): 7 (1999).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Microchloa altera (Rendle) Stapf

Rendlia altera (Rendle) Chiov.

Mahem's crest, streamside timothy

Perennial, up 700 mm; forms compact mats; basal leaf sheaths splitting into fibres; inflorescence single secund raceme, spikelet 4.4–5 mm long, 2(3)-flowered; in montane grassland and seasonally wet dambos, sometimes on termitaria in floodplain grassland; 980–2,260 m. South Africa, Zimbabwe, Malawi, Zambia, Tanzania, and D.R.C.

Source. *Flora zambesiaca* 10(2): 231 (1999).

Malawi. Nyika Plateau, 1949, *Hawksworth in GHS* 22678 (K).

Microchloa caffra Nees ❖

pincushion grass

Perennial, dense tufts, up to 700 mm high; inflorescence a single secund raceme, spikelet 3.4–4.1 mm long; 1-flowered; in montane grassland, often in bare areas, in shallow soils over rock or laterite pans, in bare or sparsely covered areas in miombo or mixed deciduous woodlands, and on dambo and pan margins; 580–1,950 m. Southern Africa to Ethiopia and D.R.C.

Source. *Flora zambesiaca* 10(2): 230–231 (1999).

Malawi. Nyika Plateau, 1,690 m, 1977, *Pawek* 13303 (K, SRGH); grassland opposite Juniper Forest, 2000, *Smook* 10921 (PRE, MAL, UZL, SRGH); without locality, 7,000', 1959, *Robinson* 2997 (UZL).

Microchloa indica (L.f.) P.Beauv.

Annual, grows in isolated tufts, rarely forming mats, up to 500 mm high; inflorescence a single secund raceme, spikelet 1.6–2.1(3) mm long; 1-flowered; often in bare or sparsely covered ground in montane grassland and miombo woodlands, on pan edges in mopane woodland, sometimes on termitaria; also roadsides and paths; 610–2,350 m. Throughout the tropics and subtropics.

Source. *Flora zambesiaca* 10(2): 229–230 (1999).

Malawi. Nyika Plateau: 2,300 m, 1975, *Pawek* 9267; Chosi Viewpoint, 2000, *Phiri* 3537 (UZL); 2000, *Smook* 10733 (PRE, MAL, UZL, SRGH, LMA); Dembo Bridge, 2000, *Kasakula* 231 (MAL).

Microchloa kunthii Desv.

Perennial, dense tufts, up to 700 mm high; growing in compact mats; inflorescence a single secund raceme, spikelet 2.3–3.2 mm long; 1-flowered; frequent on shallow soils over rock in montane grassland and rocky outcrops, on stony hillsides, in bare patches in miombo woodland, and on dambo margins; 650–2,300 m. Southern Africa and tropical Africa into Arabia, India, China, and tropical S. America.

Source. *Flora zambesiaca* 10(2): 230 (1999).

Malawi. Nyika Plateau, Chelinda Valley, 2,300 m, 1976, *Phillips* 1354 (K, SRGH); Nganda Hill, 2000, *Phiri* 3689 (UZL); Chelinda Bridge, 2000, *Mwanyambo* 531 (MAL); Chosi Viewpoint, 2000, *Smook* 10726 (PRE, MAL, UZL, SRGH, LMA).

Monocymbium ceresiiforme (Nees) Stapf ❖

boat grass

Perennial, of variable habit from straggling to densely tufted; inflorescence of solitary racemes, enclosed in reddish brown, cymbiform spatheole, loosely gathered into false panicle; grassy hillsides; dominant in poorer montane grasslands of the Nyika, along with *Loudetia simplex* (Lemon 1964). Southern Africa northwards to Ethiopia and westwards to W. Africa.

Source. *F.T.E.A. Gramineae* (3): 823–825 (1982)

Malawi. Nyika Plateau, Rumphi Bridge, 1975, *Pawek* 9261 (PRE); Chosi Viewpoint, 2000, *Phiri* 3531 (UZL); *Mwanyambo* 481 (MAL); 2000, *Kasakula* 198 (MAL); 2000, *Smook* 10731 (PRE, MAL, UZL, SRGH, LMA); Runyina River, 2000, *Phiri* 3782 (UZL).

Zambia. Nyika National Park, Chowo Forest, 2000, *Phiri* 3514 (UZL); Rest House Area, 2000, *Phiri* 3582 (UZL); western part of Nyika National Park, 2000, *Phiri* 3953 (UZL).

Oplismenus hirtellus (L.) P.Beauv. ❖

basket grass

Perennial, rambling; inflorescence of elongated racemes along central axis or upper reduced to fascicles, if all fascicled, awns less than 7 mm long; spikelet 2–4 mm long, awn smooth and sticky; in shade of montane forests and evergreen riverine forests; 1,000–1,800 m. Throughout the tropics, except in Asia.

Source. *Flora zambesiaca* 10(3): 8 (1989).

Malawi. Nyika Plateau, 1951, *Jackson* 496 (K).

Zambia. Nyika Plateau, 1958, *Robson* 415 (K).

Oplismenus undulatifolius (Ard.) Roem. & Schult.

Perennial, trailing; racemes reduced to cuneate fascicles; spikelet 2.5–4 mm long; awns smooth and sticky; forest shade; 800–2,400 m. Malawi, Mozambique, Zambia, Zimbabwe; warm temperate regions of the northern hemisphere, extending southwards to the uplands of Africa and India.

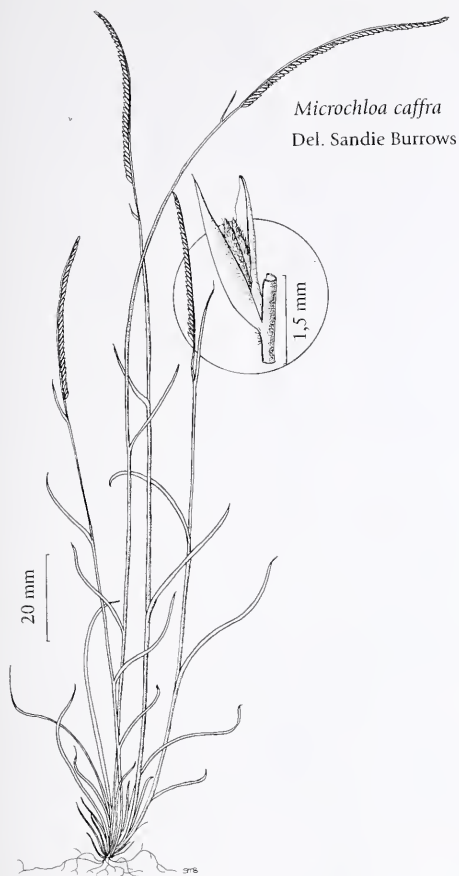
Source. *Flora zambesiaca* 10(3): 8 (1989).

Malawi. Nyika Plateau, 1970, *Brummitt* 10886 (K); Juniper Forest, 2000, *Smook* 10902 (PRE, MAL, UZL, SRGH, LMA).

Oreobambos buchwaldii K.Schum. ❖

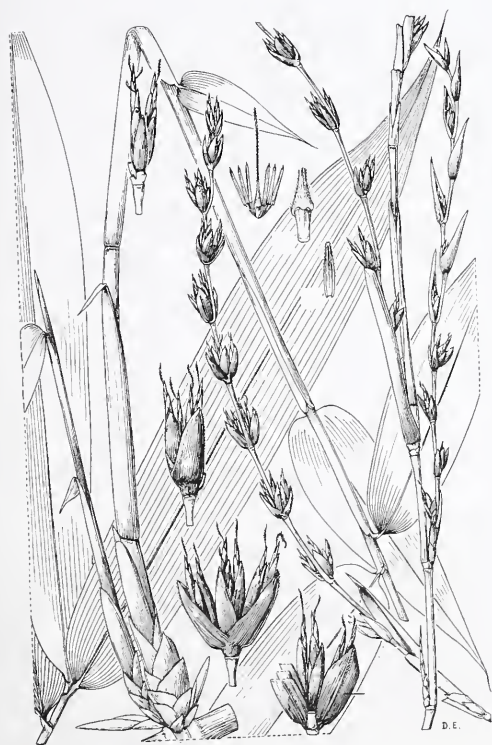
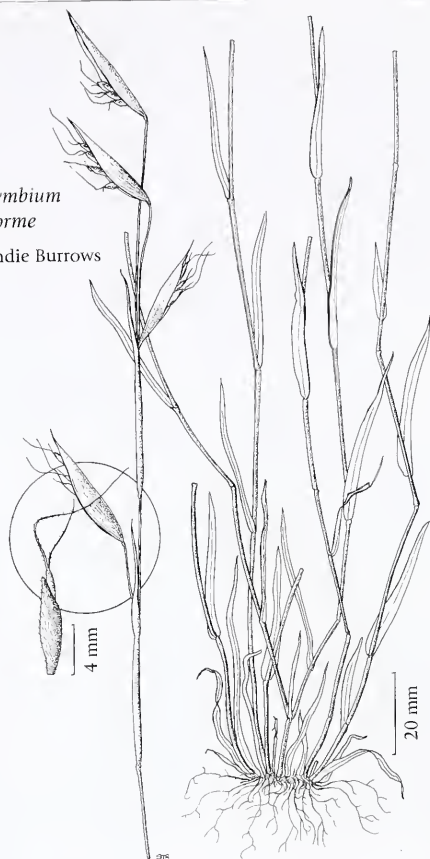
tolanje

Robust tree-like bamboo, growing in small dense patches or solitary clumps, up to 20 m high; leaf laminae obscurely tessellate; culm sheath covered with appressed bristle-like hairs when young, fimbriate at mouth, with short subulate lamina, inflorescence large and loose; in clearings of evergreen rainforests, in swampy forests, and along mountain streams. Zambia and Malawi; also Uganda and Tanzania. Rare on Nyika.



Microchloa caffra
Del. Sandie Burrows

Monocymbium
ceresiiforme
Del. Sandie Burrows



Oreobambos buchwaldii
Del. Derek Erasmus



Oplismenus hirtellus
Del. Charmaine Bartman

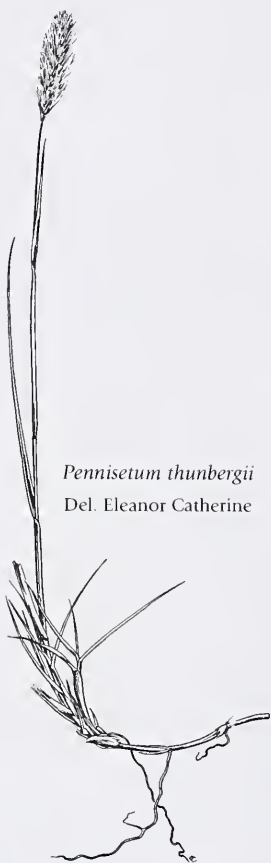
Panicum maximum
Del. Clare Smith



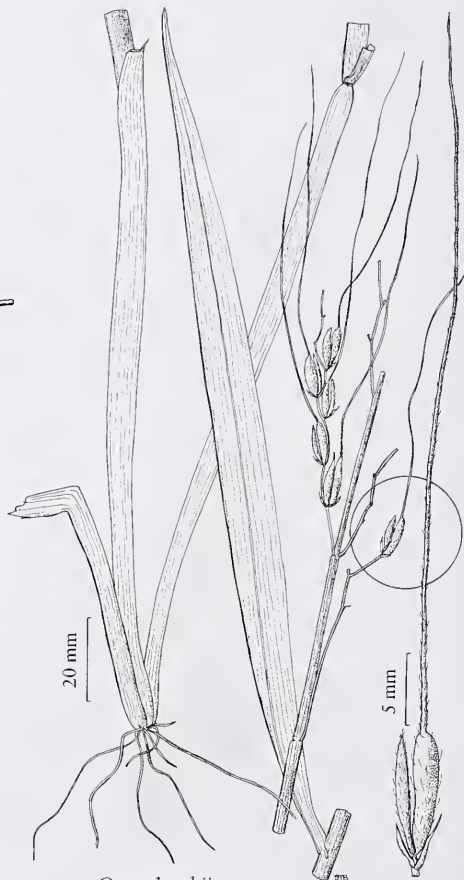
*Panicum
lukwangulense*
Del. Sandie
Burrows



Pennisetum thunbergii
Del. Eleanor Catherine



Paspalum scrobiculatum
Del. Eleanor Catherine



Oryza barthii
Del. Sandie Burrows

Malawi. Nyika National Park, lower N. Rukuru River, 1,600 m (Dowsett-Lemaire 1985).

***Oryza barthii* A.Chev. ❖**

wild rice; mpungaziwe, songasekwe

Annual aquatic grass growing in tufts, up to 1.2 m high, erect or geniculate, produces aerial roots from lower nodes; panicle obdeltoid, dense, many-flowered; spikelet 8–10.5 mm long (excluding awn), keels usually stiffly ciliate, awn (6.5)8–16(19) mm long; in shallow water of ponds, dambos, and marshes; as a weed in rice fields. Not recorded for Malawi in *Flora zambesiaca* (1971). Botswana, Zimbabwe, Zambia to Tanzania; W. Africa from Mauritania to Sudan.

Malawi. Nyika, without locality or collecting details (Patel 1999).

***Panicum adenophorum* K.Schum.**

Annual or short-lived perennial; up to 2.4 m high; leaf cordate or amplexicaul; panicle moderately to much branched, clavate hairy; spikelets 2.5–3(5) mm long; forest margins, grassland or scrub. Malawi, Zambia; Uganda, Tanzania, D.R.C., and Burundi.

Source. *Flora zambesiaca* 10(3): 15 (1989).

Malawi. Nyika Plateau, Chowo Rocks, 2,300 m, 1968, *Simon, Williamson & Ball* 1659 (K, SRGH); Sangule Kopje area, 2000, *Smook* 10857 (PRE).

***Panicum aequinerve* Nees**

Annual or short-lived perennial with trailing culms; panicle sparsely branched, spreading, pilose or glabrous; spikelet 3–4 mm long; forest margins and mountain grasslands; 1,000–2,700 m. A South African species extending northwards through Malawi to Ethiopia.

Source. *Flora zambesiaca* 10(3): 37 (1989).

Malawi. Nyika National Park, circular drive from Chelinda Camp to Dembo River bridge, 2000, *Smook* 10774 (PRE, MAL, UZL, SRGH, LMA); Sanguli Hill, 2000, *Smook* 10856 (PRE, MAL, UZL, SRGH, LMA).

***Panicum chionachne* Mez**

stream-side panic grass

Annual or short-lived perennial with decumbent or trailing culms; panicle sparsely to moderately branched, spreading; spikelets 2–3 mm long, acute or acuminate; in forest shade or mountain grassland, in damp places; in stands of *Khaya anthotheca* and *Syzygium* along streams (Lemon 1964); 1,000–2,750 m. Malawi and Zambia, extending northwards to D.R.C. and Sudan.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Panicum claytonii* Renvoize**

Perennial, up to 750 mm high, erect, pubescent rhizome or knotty base; panicle sparsely branched, densely clavate hairy; spikelet 3.5–5.5 mm long, oblong, pale green often tinged with purple; specimens from Nyika appear not to have any clavate hairs; in woodland or grassland, on red soils. Malawi, Zambia, S. Tanzania, and D.R.C.

Source. *Flora zambesiaca* 10(3): 13 (1989).

Malawi. Nyika Plateau, 1958, *Robson* 332 (K, holo.); road to Dembo River bridge, 2000, *Smook* 10804 (PRE, MAL, UZL, SRGH).

***Panicum delicatulum* Fig. & De Not.**

Panicum caudiglume Stapf; *Panicum nyassense* Napper

Annual, erect, weak, up to 500 mm high; panicle moderately to much-branched; spikelet 2–2.5 mm long, ovate, pilose, acuminate; in submontane forest; 1,500–2,400 m. Malawi and Zambia northwards to Sudan and Ethiopia.

Source. *Flora zambesiaca* 10(3): 39 (1989).

Malawi. Nyika Plateau, 1969, *Pawek* 2110 (K); Chosi Viewpoint, 2000, *Phiri* 3527b (UZL); near Dembo River bridge, 2000, *Smook* 10801 (PRE); Jalawe Viewpoint, 2000, *Smook* 10878 (PRE, MAL, UZL, SRGH, LMA).

***Panicum ecklonii* Nees**

Panicum pectinatum Rendle

small panicum

Perennial, up to 800 mm high, base usually densely pubescent; panicle

moderately to much-branched, flexuous, glabrous to clavate-hairy; spikelet 2.5–3.5 mm long; apex puberulous, glumes pectinate; in grassland, in rocky places; 1,200–2,700 m. Southern Africa northwards to S. Tanzania and westwards to W. Africa.

Source. *Flora zambesiaca* 10(3): 13 (1989).

Malawi. Nyika Plateau, 1977, *Pawek* 13342 (K, SRGH).

***Panicum grandiflorum* Stapf**

Perennial, tufted or shortly rhizomatous, up to 1.5 m high; panicle moderately branched; spikelet 2–2.5 mm long; in grassland on sandy, often damp, soil; 400–1,600 m. Malawi, Mozambique, Zambia, Zimbabwe, and Botswana. Known only from the *Flora zambesiaca* area.

Malawi. Nyika National Park, Domwe, 2000, *Kasakula* 254 (MAL).

***Panicum hymeniophilum* Nees**

Aquatic annual, up to 1.2 m high; panicle sparsely branched, with tapering and clavate hairs, rarely clavate hairs absent; spikelet 2–2.5 mm long; river margins and swampy places. Southern Africa to Ethiopia, also in Guinea and Madagascar.

Malawi. Nyika National Park, Dam #1 at Chelinda Camp, 2000, *Smook* 10740 (PRE, MAL, UZL, SRGH, LMA); Dembo River bridge, 2000, *Smook* 10792 (PRE, MAL, UZL); Sangule Kopje, 2000, *Smook* 10858 (PRE, MAL, UZL, SRGH).

***Panicum inaequilatum* Stapf & C.E.Hubb**

Perennial, delicate, erect or decumbent from slender rhizome; panicle sparsely branched; spikelet 2–3 mm long, elliptic, sparsely to densely pilose; in submontane grassland, in wet places; 1,600–2,400 m. Malawi, Mozambique, Zimbabwe, and S. Tanzania.

Source. *Flora zambesiaca* 10(3): 38 (1989).

Malawi. Nyika Plateau, Chelinda Camp, 1970, *Brummitt* 10904 (K, MAL, SRGH); near Dembo River bridge, 2000, *Smook* 10800 (PRE, MAL, UZL, SRGH).

***Panicum lukwangulense* Pilg. ❖**

Perennial, up to 1.5 m high, often densely mixed hispid and glandular hairy; panicle much-branched; spikelet 2.5–3.5 mm long, pilose at apex only; lower glume pectinate or not, upper glume pectinate; in submontane grassland, in damp situations; 2,300–3,000 m. Malawi and S. Tanzania. This species is very closely related to *P. ecklonii* (above).

Source. *Flora zambesiaca* 10(3): 12 (1989).

Malawi. Nyika Plateau, Lake Kauline, 1968, *Simon, Williamson & Ball* 1647 (K, SRGH); Mpopoti, 2000, *Mwanyambo* 544 (MAL); en route to Dembo River bridge, 2000, *Smook* 10776 (PRE, MAL, UZL).

***Panicum maximum* Jacq. ❖**

Guinea grass; msonthe, pokopoko

Perennial, sometimes annual, up to 450 mm high; panicle oblong to pyramidal, spikelet 2.5–5 mm long, oblong, glabrous to pubescent, obtuse or acute; upper lemma conspicuously rugose; in shady or open habitats, on stable or unstable soils in natural or disturbed situations. Throughout southern and tropical Africa; also in Madagascar and introduced widely throughout the tropics.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Chelinda Dam, 2000, *Chapama* 195 (FRIM).

***Panicum monticola* Hook.f.**

montane panic grass

Perennial, slender, decumbent up to 1 m long; panicle sparsely to moderately branched; spikelet 2.2–3.5 mm long; in submontane and evergreen montane forests (Lemon 1964); 600–2,600 m. South Africa and throughout tropical Africa.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Panicum pectinellum* Stapf**

Perennial, slender, erect, up to 0.9 m high; base pubescent, knotty; leaves mostly cauline; panicle much-branched, flexuous, glandular hairy; spikelet 1.5–2 mm long, ovate-elliptic; in damp places in rocky grassland or wood-

land; 1,300–2,200 m. Malawi, Zambia, Angola, and D.R.C.

Source. *Flora zambesiaca* 10(3): 12 (1989).

Malawi. Nyika National Park, Chisanga Falls, 1968, *Simon, Williamson & Ball 1798* (K, SRGH); path to Chisanga Falls, 2000, *Smook 10762* (PRE, MAL, UZL, SRGH, LMA).

***Panicum pusillum* Hook.f.**

Annual, delicate, erect or often decumbent, up to 600 mm high; panicle sparsely to moderately branched, spreading to deflexed; spikelet 1.5–2 mm long, narrowly ovate, pilose; in mountain grassland and bush land; 1,350–3,300 m. Malawi northwards to Ethiopia and Sierra Leone.

Source. *Flora zambesiaca* 10(3): 37 (1989).

Malawi. Nyika Plateau, Rumphu Bridge, 1975, *Pawek 9263* (K, MO, SRGH, MAL); Chosi Viewpoint, 2000, *Smook 10734* (PRE, MAL, UZL, SRGH, LMA); on main road to Chisanga Falls from Chelinda Camp, 2000, *Smook 10742* (PRE, MAL, UZL, SRGH, LMA); Chelinda River bridge, 2000, *Smook 10816* (PRE, MAL, UZL, SRGH, LMA).

***Panicum trichocladum* Hack ex K.Schum.**

Perennial, scrambling; panicle densely hairy below lowest branches, pedicels with long cilia at apex covering spikelets; spikelet 2.2–3 mm long, oblong; in shade of bush or forest, on stony or sandy soils. Zimbabwe northwards to D.R.C. and Ethiopia.

Malawi. Nyika, without locality or collecting details (Patel 1999).

***Panicum wiehe* Renvoize**

Annual, scrambling; panicle moderately to much-branched; spikelet 2–2.5 mm long, glabrous to sparsely pilose; in evergreen forests; 900–2,200 m. Zimbabwe and Malawi, extending northwards to Sudan.

Source. *Flora zambesiaca* 10(3): 39 (1989).

Malawi. Nyika National Park, Juniper Forest, 2000, *Smook 10901* (PRE, MAL, UZL, SRGH, LMA).

***Paspalum scrobiculatum* L. ✧**

veld paspalum

Perennial, erect or decumbent at base and rooting at nodes, up to 1.5 m high; racemes 1–20, digitate; spikelet 1.4–3 mm long, broadly elliptic to subrotund, becoming brown; on damp soils and by water; 0–1,900 m. Southern Africa and throughout the Old World tropics. A variable species.

Malawi. Nyika National Park, Dembo River bridge, 2000, *Smook 10779* (PRE, MAL, UZL, SRGH, LMA); between Dam #2 and Chelinda Hill, 2000, *Smook 10842* (PRE, MAL); Juniper Forest parking area, 2000, *Smook 10906* (PRE, MAL, UZL, SRGH).

Zambia. Western part of Nyika National Park, 2000, *Phiri 3943* (UZL).

***Pennisetum clandestinum* Chiov.**

Kikuyu grass

Perennial, mat-forming, rhizomatous; inflorescence reduced and concealed in uppermost sheath; in upland grassland on fertile soils subject to grazing; 1,300–2,500 m. E. African highlands. Probably introduced; widely cultivated for pasture and soil stabilization. Introduced to most tropical and subtropical regions.

Source. *Flora zambesiaca* 10(3): 179 (1989).

Malawi. Nyika Plateau, Chelinda, Old Salt Lick, 1976, *Phillips 1223* (K, MO).

***Pennisetum thunbergii* Kunth ✧**

Thunberg's grass, Thunberg's pennisetum

Perennial, rhizomatous, erect to geniculate, up to 1.5 m high; inflorescence spike-like, bristles fine, glabrous; spikelets 2.5–5 mm long; in upland grassland, particularly on damp soils; may grow with *Hyparrhenia* in lower grassland (Lemon 1964); 1,500–2,500 m. South Africa northwards to Yemen and eastwards to Sri Lanka.

Source. *Flora zambesiaca* 10(3): 185 (1989).

Malawi. Nyika Plateau, 1952, *Jackson 889* (K, SRGH); Dam #2, 2000, *Smook 10826* (PRE, MAL, UZL, SRGH, LMA); between Dam #2 and Chelinda Hill, 2000, *Smook 10833* (PRE, MAL, UZL, SRGH, LMA); Juniper Forest, at bridge, 2000, *Smook 10928* (PRE, MAL, UZL, SRGH).

***Pennisetum unisetum* (Nees) Benth.**

Beckeropsis uniseta (Nees) K.Schum.

Perennial, robust, up to 4 m high; panicles axillary and gathered into a copious false inflorescence; involucre reduced to a single bristle; spikelets 2–3 mm long; in wooded grassland and riverine forests, favouring partial shade; on better soils or fringes of forests (Lemon 1964). South Africa and throughout tropical Africa to Yemen.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Zambia. Western part of Nyika National Park, 2000, *Phiri 3932* (UZL).

***Phacelurus huillensis* (Rendle) Clayton ✧**

Thysia huillensis (Rendle) Stapf; *Thysia undulatifolia* (Chiov.) Robyns

Perennial, up to 1.8 m high, erect; racemes 3–4, internodes and pedicels clavate; sessile spikelet usually pallid, awnless; in *Brachystegia* wooded grassland. Malawi, Mozambique, Zambia, Tanzania, and D.R.C.

Malawi. Nyika Plateau foothills, 1968, *Simon, Williamson & Ball 1644* (K, PRE); Thazima road, 2000, *Phiri 3609* (UZL); Thazima Gate towards Chelinda, 2000, *Mwanyambo 511* (MAL); Jalawe Viewpoint, 2000, *Smook 10875* (PRE, MAL, UZL, SRGH, LMA).

***Phacelurus schliebenii* (Pilg.) Clayton**

Thysia schliebenii Pilg.

Perennial, up to 0.9 m high; basal sheaths flabellate; racemes 2–8, internodes and pedicels clavate; sessile spikelet dark purple, awnless; in marshy places. Zambia, Malawi, Tanzania, and D.R.C.

Malawi. Nyika National Park, Lake Kaulime, 1951, *Jackson 533* (PRE); 1968, *Simon, Williamson & Ball 1644* (PRE); 1970, *Brummitt 11913* (K, PRE); Dembo Bridge, 2000, *Smook 10783* (LMA, MAL, PRE, SRGH, UZL).

***Phragmites mauritianus* Kunth ✧**

common reed; bango, matete

Perennial, up to 5 m high, leaf tips sharp, leaves deciduous at base of sheath; similar in habitats to *P. australis*, though more often recorded growing on sandy banks and not submerged in water; in dense stands along rivers, in swamps, flood plains, marshes, and edges of pools or dams. Southern African region and throughout tropical Africa. In some areas plants may be referred to as *P. karka*.

Source. Brummitt (1973).

Malawi. Nyika National Park, Chipome Valley, 1972, *Synge 275* (K, MAL, SRGH); Sangule Kopje, 2000, *Smook* sight record (material sterile).

***Poa annua* L.**

annual blue grass

Annual, rarely perennial, erect, spreading or decumbent, sometimes rooting at nodes, up to 300 mm high; panicle usually open, stiff; spikelet 3–8 mm long, green, often tinged red; in disturbed areas, in forest clearings, as a weed of cultivation, rarely in montane grassland or open woodlands. A cosmopolitan weed.

Malawi. Nyika National Park, Thazima Gate, 2000, *Phiri 3641* (UZL); Chelinda Camp, 2000, *Smook 10887* (MAL, PRE).

***Poa leptoclada* Hochst. ex A.Rich**

Perennial, variable, erect or geniculate, wiry, up to 750 mm high; lower sheaths often splitting into coarse fibres; panicle almost spike-like, branches erect; spikelets 3–6 mm long pale green, often tinged purple; in montane forests and moorland, in semi-montane open grassland, in kloofs, or along montane watercourses, always in semi-shade and in moist ground. Lesotho and Zimbabwe northwards to Ethiopia, Somalia, and W. tropical Africa.

Source. *Flora zambesiaca* 10(1): 48 (1971).

Malawi. Nyika Plateau, near Lake Kaulime, 2,190 m, 1962, *Tyrer 958* (BM, COI, SRGH).

***Poa schimperiana* Hochst. ex A.Rich ✧**

Perennial, slender, weak, erect or geniculate, sometimes straggling; panicle very lax, erect or nodding; spikelets 3–6 mm long; in montane grassland, open woodland, and in forest scrub, usually in moist places. Malawi, Tanzania, Uganda, Kenya, and D.R.C. Very closely allied to *P. leptoclada* (above).



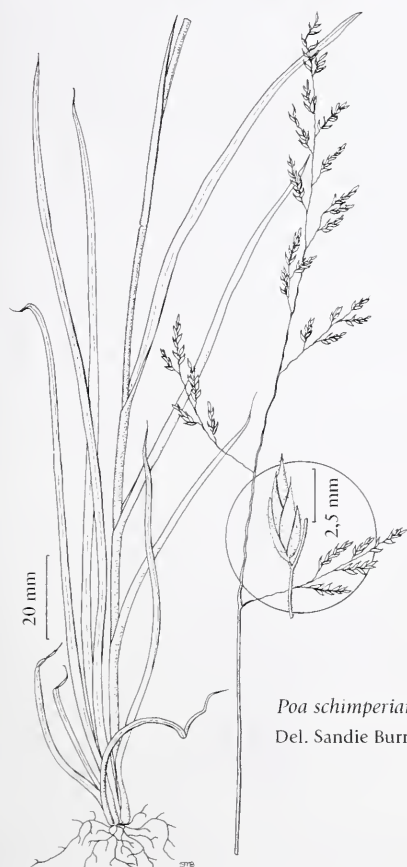
Phacelurus huillensis
Del. Maureen Church

ME

Phragmites mauritianus
Del. Derek Erasmus



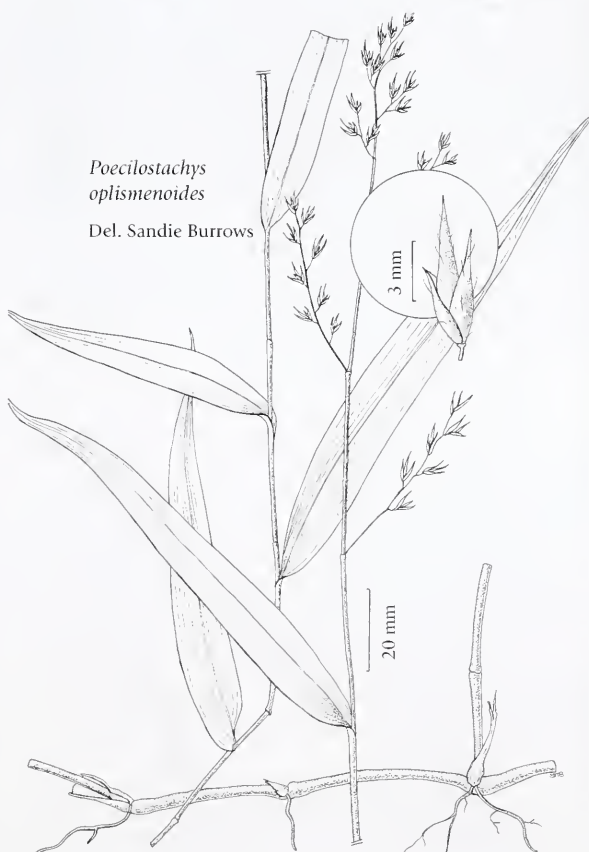
D.E



Poa schimperiana
Del. Sandie Burrows

20 mm

2.5 mm



Poecilostachys
optismenoides
Del. Sandie Burrows

3 mm

20 mm

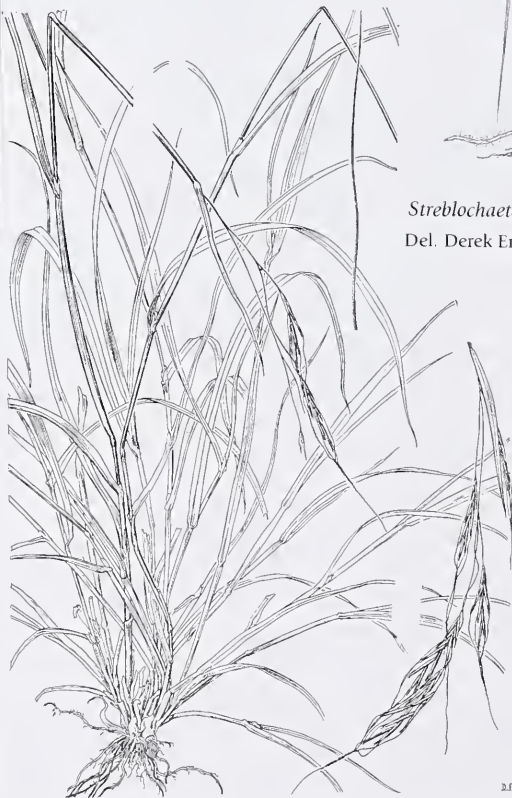
Rhynchne rottboelliioides
Del. Sandie Burrows



Sporobolus subtilis
Del. Charmaine Bartman



Streblochaete longiarista
Del. Derek Erasmus



Sacciolepis typhura
Del. Wilma Roux



Stipa keniensis
Del. Wilma Roux

Source. *Flora zambesiaca* 10(1): 50 (1971).

Malawi. Nyika Plateau, Kasaramba, 1951, *Jackson 504* (SRGH); between Chelinda Hill and Kasaramba Road, 2000, *Smook 10892* (PRE, MAL, UZL, SRGH, LMA).

Poecilostachys oplismenoides (Hack.) Clayton ❖

Choachne oplismenoides (Hack.) Robyns

Perennial, trailing, often with aerial roots at nodes; lax racemes along main axis, spikelets in clumps; spikelets 6–8 mm long, with stiff bristles in yellowish tubercles; in shady places in evergreen forests. Zimbabwe, Malawi, Mozambique, Zambia, northwards to Nigeria and Ethiopia.

Source. *Flora zambesiaca* 10(3): 3 (1989).

Malawi. Nyika Plateau, 1952, *Jackson 887* (K).

Zambia. Nyika Plateau, 1958, *Robson 217* (K).

Rhytachne rottboellioides Desv. ❖

Perennial, slender to robust, up to 1 m high; leaves setaceous; single terminal cylindrical raceme, internodes clavate; sessile spikelet 2–6 mm long, rugose or muricate, glumes awned or awnless; pedicelled spikelet suppressed or nearly so; in swamps and seasonally wet grasslands; 50–2,130 m. Southern and tropical Africa; also in Madagascar, the West Indies, and S. America. A variable species.

Malawi. Nyika National Park, main road at start of footpath to Chisanga Falls, 2000, *Smook 10752* (PRE, MAL, UZL, SRGH, LMA).

Sacciolepis chevalieri Stapf

Sacciolepis brevifolia Stapf

Perennial, rhizomatous, up to 1 m high, culms hard; leaves tightly rolled; panicle cylindrical, often interrupted; spikelets 1.5–2 mm long, mostly pubescent; in swamps and near water; 500–2,000 m. Southern and tropical Africa; also in Madagascar.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999); Dam #2, 2000, *Smook 10825* (PRE, MAL, UZL, SRGH, LMA, K).

Sacciolepis spiciformis (A.Rich.) Stapf

Sacciolepis buillensis (Rendle) Stapf; *Sacciolepis geniculata* Simon

Annual, growing in clumps, up to 800 mm high; panicle cylindrical, spike-like, usually above leaves; spikelets 1–1.5 mm long glabrous or hispidulous; in damp or swampy soils, in pools on rock and ironstone outcrops; 0–2,300 m. South Africa northwards to Cameroon and Ethiopia; also in Madagascar.

Source. *Flora zambesiaca* 10(3): 44 (1989).

Malawi. Nyika Plateau, 1968, *Simon, Williamson & Ball 1650* (K, SRGH).

No country given. Nyika National Park, 1967, *Vesey-Fitzgerald 2977* (UZL).

Sacciolepis transbarbata Stapf

Perennial, with short knotty rhizome, up to 1 m high; panicle cylindrical, spikelets 3–4 mm long, elliptic, silky pilose with a transverse fringe of long hairs on back of lower lemma; in *Brachystegia* woodland; 1,200–1,900. Malawi, Zambia, Zimbabwe, and Tanzania.

Malawi. Nyika National Park, Chisanga Falls area, 2000, *Phiri 3576* (UZL); roadside at start of footpath to Chisanga Falls, 2000, *Smook 10775* (PRE, MAL, UZL, SRGH).

Sacciolepis typhura (Stapf) Stapf ❖

Sacciolepis velutina Napper; *Sacciolepis cinereo-vestita* (Pilg.) C.E.Hubb.

Perennial, shortly rhizomatous, up to 1.5 m high; usually spongy at base with cross-nerves on sheaths; leaves flat or folded; panicle cylindrical, dense; spikelet 1.7–2.5 mm long, ovate, mostly glabrous; in swampy and marshy places; 500–2,500 m. South Africa and Namibia, northwards throughout tropical Africa. It is possible that *S. typhura* and *S. chevalieri* are just habitat forms of a single species.

Malawi. Nyika National Park, without locality or collecting details (Patel 1999); Chelinda Bridge, 2000, *Smook 10807* (PRE, MAL, UZL, SRGH, LMA, K).

Schizachyrium brevifolium (Sw.) Nees ex Büse ❖

Annual, erect or scrambling and decumbent, delicate, tinged with bright purplish red, up to 400 mm high; racemes filiform, shortly exerted from

the spatheole; sessile spikelet 2.3–3.5 mm long, awn 6–13 mm long; damp waterlogged areas, open sandy ground, river-banks, and road sides, in cultivated ground; 610–1,550 m. Pantropical.

Malawi. Nyika National Park, near Dembo Bridge, 2000, *Smook 10799* (MAL, PRE).

Setaria grandis Stapf ❖●

Willis's timothy

Perennial, robust, up to 3 m high; strongly flabellate basal sheaths; panicle branched, branches stiffly spreading, bristles rigid and pungent; spikelet 3.5–4 mm long; in marshy places bordering lakes and streams; 2,300–2,500 m. Confined to the Nyika Plateau. This species is common and widespread in the Nyika National Park, growing on forest margins, along streams in forest clearings, and in forest margins where the streams leave the forest patches.

Source. *Flora zambesiaca* 10(3): 103 (1989).

Malawi. Nyika Plateau, *Henderson* (BM, holo.); Lake Kaulime, 1970, *Brummitt 10812* (K, SRGH); Mpopoti Hill, 2000, *Salubeni & Mwanyambo 6789* (MAL); Dembo Bridge, 2000, *Thera 3025* (MAL); 2000, *Kasakula 233* (MAL); between Chelinda Camp and Dembo Bridge, 2000, *Smook 10775* (PRE, MAL, UZL, SRGH).

Setaria homonyma (Steud.) Chiov.

Annual, up to 1 m; leaves plicate, light green; panicle branched; spikelet 2–2.5 mm long; in shady places in forests, woodland, and thickets, often as a weed of cultivation; 600–1,500 m. Southern African region, Cameroon, and Ethiopia; also India.

Malawi. Nyika National Park, Thazima Gate, 2000, *Phiri 3636* (UZL); without locality or collecting details (Patel 1999).

Setaria incrassata (Hochst.) Hackel

Setaria phragmitoides Stapf; *Setaria palustris* Stapf

veli bristle grass

Perennial, with short rhizome, up to 2 m high, nodes pubescent, rarely glabrous; basal sheaths pallid; panicle spike-like; spikelets 2–3 mm long; on black clay plains and marshy stream margins into drier soils; 0–2,000 m. Southern Africa to Ethiopia and Nigeria.

Malawi. Nyika National Park, Dembo River bridge, 2000, *Smook 10785* (MAL, PRE).

Setaria lindenberiana (Nees) Stapf

mountain bristle grass

Perennial, up to 1.2 m high; leaves plicate when young, then flattening out; panicle branched, usually contracted, bristles often inconspicuous; spikelets 2–3 mm long; in open woodland, often on rocky slopes or termite mounds. South Africa, Botswana, Zimbabwe, Zambia, and D.R.C., but not recorded for Malawi in *Flora zambesiaca* (1989). A variable species.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Setaria longiseta P.Beauv.

Setaria paniciformis Rendle

Perennial, geniculate, up to 1.5 m high; panicle branched; spikelets 1.5–2.2 mm long, often tinged purple; in woodland, thicket, and streamsides, often in shady places or on termite mounds; 0–2,000 m. Zimbabwe, Malawi, Mozambique, Zambia, northwards to Sudan and Sierra Leone.

Source. *Flora zambesiaca* 10(3): 103 (1989).

Malawi. Nyika Plateau, 1970, *Hall-Martin 1689* (K, PRE); Sangule Kopje area, 2000, *Smook 10861* (PRE, MAL, UZL, SRGH, LMA); 2000, *Smook 10867* (PRE, MAL, UZL); on road to Chisanga Falls, 2000, *Smook 10745* (PRE, MAL, UZL).

Zambia. Nyika National Park, Manyenjere Forest, 2000, *Phiri 4053* (UZL); Chowo Forest, 2000, *Phiri 3512* (UZL); western part of Park, 2000, *Phiri 3947* (UZL).

Setaria megaphylla (Steud.) T.Durand & Schinz

Setaria plicatilis (Hochst.) Engl.; *Setaria chevalieri* Stapf

broad-leaved bristle grass

Perennial, forming large tufts, up to 3 m high, but showing a considerable

variation in size; leaves plicate; panicle branched; spikelets 2.2–3.5 mm long; in woodland shade, forest glades, and streamsides; 0–1,800 m. Southern and tropical Africa; also in tropical America and a few records in India. Intergrades with a number of related species.

Malawi. Nyika National Park, Chelinda Dam, 2000, *Chapama 190* (FRIM); without locality or collecting details (Patel 1999).

***Setaria petiolata* Stapf & C.E.Hubb**

Setaria interpilosa Stapf & C.E.Hubb.

Annual, weak, up to 1 m, nodes glabrous; panicle spike-like, loose; spikelet 1.5–2 mm long, bristles 5–10 mm long; in wooded grassland and among rocks, in shade; 700–1,500 m. Malawi, Mozambique, Zambia, Zimbabwe; also Kenya and Tanzania.

Source. *Flora zambesiaca* 10(3): 101 (1989).

Malawi. Rumphi (Nyika Plateau?), 1954, *Jackson 1243* (K); without locality or collecting details (Patel 1999).

***Setaria pumila* (Poir.) Roem. & Schult.**

Setaria pallida-fusca (Schumach.) Stapf & C.E.Hubb.; *Setaria ustilata* de Wit

golden bristle grass; katiti

Annual, up to 1.3 m high, nodes glabrous; panicle spike-like; spikelets 1.5–3.5 mm long; bristles green to yellow; a weedy species in disturbed places; 0–1,500 m. Southern Africa region, tropical and warm temperate regions of the Old World; introduced to America.

Source. *Flora zambesiaca* 10(3): 100 (1989).

Malawi. Nyika National Park, Thazima Camp, 2000, *Chapama 179* (FRIM); Chelinda Dam, 2000, *Chapama 187* (FRIM); Dembo River bridge, 2000, *Kasakula 229* (MAL); 2000, *Smook 10795* (PRE, MAL, UZL, SRGH, LMA).

Zambia. Nyika Plateau, 1968, *Williamson 951* (SRGH).

***Setaria sphacelata* (Schumach.) Moss**

Setaria anceps Stapf; *Setaria trinervia* Stapf
ncirawagaru

Perennial, up to 3 m high, nodes glabrous; panicle spike-like; spikelet 1.5–3.5 mm long, pallid to purple; bristles 1.5–12 mm long, yellow; in dambos and other damp habitats, but extends into drier savanna woodland soils; 0–2,000 m. Southern Africa region and tropical Africa. A variable, polymorphic species to which a large number of specific or varietal names have been applied; although morphological variation is customarily partitioned into several varieties; it should be noted that the variation forms a continuum and these varieties are only weakly defined.

Malawi. Nyika National Park, Chosi Viewpoint, 2000, *Mwanyambo 484* (MAL); *Smook 10720* (PRE, MAL, UZL, SRGH); Dembo Bridge, 2000, *Kasakula 223* (MAL); Jalawe Viewpoint, 2000, *Smook 10882* (PRE, MAL, UZL, SRGH, LMA).

Zambia. Nyika National Park, Chowo Forest, 2000, *Phiri 3513* (UZL); Rest House area, 2000, *Phiri 3732* (UZL).

***Sporobolus africanus* (Poir.) Robyns & Tournay**

Sporobolus capensis (P.Beauv.) Kunth
ratstail dropseed

Perennial, erect, up to 1.3 m high; panicle dense, linear to spike-like; spikelet 1.7–2.6 mm long, grey-green to dark green; in floodplain and swampy grassland, in montane grassland, and margins of evergreen forest; 100–2,300 m. South Africa to Cameroon and Ethiopia; also in the Arabian peninsula, Sri Lanka, and Hawaii. This is one of a complex of species, which are often difficult to separate from one other.

Source. *Flora zambesiaca* 10(2): 186 (1999).

Malawi. Nyika Plateau, Dembo Bridge, 2,300 m, 1975, *Pawek 9304* (K); en route to Dembo River Bridge, 2000, *Smook 10796* (PRE, MAL, UZL, SRGH, LMA).

Zambia. Nyika Plateau, Chire River, 1968, *Williamson 1027* (K).

***Sporobolus centrifugus* (Trin.) Nees**

olive dropseed

Perennial, with short oblique rhizome, up to 800 mm high; basal sheaths usually indurated and horny, persistent; leaves usually tightly rolled; pani-

cle branches whorled; spikelet 2.2–5.2 mm long, very dark green; in montane short grassland, sometimes with scattered trees, and in watershed grassland, on sandy or peaty soils in rocky areas and along roadsides, often following fire; 1,210–2,300 m. South Africa, Zimbabwe, Malawi, Zambia, Tanzania, and Kenya, with one record from Sudan.

Source. *Flora zambesiaca* 10(2): 178 (1999).

Malawi. Nyika Plateau, 8 km N.W. of Lake Kaulime, 2,040 m, 1970, *Brummitt 11938* (K, LISC, MAL, PRE, SRGH).

Zambia. Nyika Plateau, 1962, *Verboom 752* (K).

***Sporobolus mauritanicus* (Steud.) T.Durand & Schinz**

Perennial, erect, up to 1 m tall; basal sheaths not indurated or only lightly so; leaves folded; panicle branches whorled, spikelets along the end half of branches; spikelet 2.9–4.8 mm long, brownish to dark olive-green; usually in dambo and swampy grassland; also in montane short grassland and wetter miombo, often after fire; 40–2,290 m. South Africa and throughout tropical Africa; also in Madagascar and Mauritius.

Source. *Flora zambesiaca* 10(2): 179 (1999).

Malawi. Nyika Plateau, turnoff to Kasaramba, ca 10 km from Chelinda, 2,290 m, 1968, *Simon, Williamson & Ball 1709* (SRGH); between Chelinda Hill and Kasaramba road, 2000, *Smook 10888* (PRE, MAL).

***Sporobolus micranthus* (Steud.) T.Durand & Schinz**

Sporobolus psammophilus Stent & J.M.Rattray

Annual, delicate, erect, up to 600 mm high; leaf margins usually with raised glands; panicle branches whorled, with sticky gland patches; spikelet 1–2.1 mm long, reddish; in miombo and *Uapaca* woodlands on sandy soils, Kalahari sand woodland, in sandveld, and on rocky outcrops, less often in dry dambos, on margins of laterite pans, and in submontane grassland, often at roadsides; 600–1,700. Throughout tropical Africa.

Source. *Flora zambesiaca* 10(2): 170 (1999).

Malawi. Nyika Plateau, 10 km N. of M1, 1,650 m, 1978, *Pawek 14055b* (K, SRGH); main road at start of footpath to Chisanga Falls, 2000, *Smook 10747* (PRE, MAL, UZL, SRGH, LMA); between river and fire-break at Juniper Forest, 2000, *Smook 10922* (PRE, MAL, UZL, SRGH, LMA).

***Sporobolus mollier* Hack.**

Annual, erect, up to 600 mm high; panicle linear, spikelets along whole length of branches; spikelet 1.6–2 mm long, yellowish or brownish green, upper glume with subulate awn-like apex; miombo woodland shade and montane grassland, usually on evergreen forest margins; also on escarpments and rocky outcrops, often as a weed of cultivated and waste ground, roadsides, paths, and lawns; 760–1,980 m. Throughout tropical Africa, with a single record from South Africa.

Source. *Flora zambesiaca* 10(2): 180 (1999).

Malawi. Nyika Plateau, Chisanga Falls, 1,980 m, 1968, *Simon, Williamson & Ball 1801* (K); Thazima Gate, 2000, *Phiri 3634* (UZL).

***Sporobolus myrianthus* Benth.**

Sporobolus angustifolius De Wild.

Perennial, up to 1.2 m high; older basal leaf sheaths indurated, sometimes disintegrating into loose glabrous cushion of fibres; panicle diffuse; spikelets evenly distributed; spikelet 1.8–2.6 mm long, dark greyish green to olive-green; often in miombo woodland, but also in mixed deciduous woodland and open grassland, on sandy soils, rocky slopes, and termitaria, and in dambo margins and shallow soil over laterite; 80–1,720 m. Zimbabwe to Angola, Nigeria, and Kenya.

Source. *Flora zambesiaca* 10(2): 191–192 (1999).

Malawi. Nyika Plateau, 13 km N. of M1, 1977, *Pawek 13309* (K, SRGH).

***Sporobolus olivaceus* Napper**

Perennial, erect, up to 0.9 m high; basal sheaths hard, usually disintegrating into a cushion of persistent fibres; leaves usually folded; panicle spike-like, spikelets densely arranged along whole length; spikelet 2.9–3.4 mm long, dark olive-green to almost black; usually in shallow sandy soils over rock; 1,650–1,700 m. From Malawi and Zambia through E. Africa to Ethiopia. In the same complex as *S. africanus*.

Source. *Flora zambesiaca* 10(2): 187 (1999).

Malawi. Nyika Plateau, 13 km N. of M1, 1977, *Pawek 13312* (K, SRGH).



Setaria grandis
Del. Sandie Burrows

Themeda triandra
Del. Charmaine Bartman

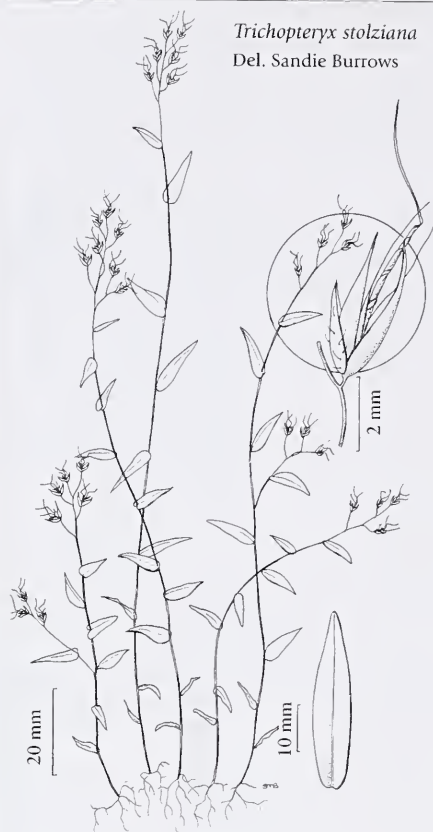


Schizachyrium brevifolium
Del. Eleanor Catherine



Thelopogon elegans
Del. William Trevithick

Trichopteryx stolziana
Del. Sandie Burrows



Tristachya leucothrix
Del. Sandie Burrows



Trachypogon spicatus
Del. Rosemary Holcroft



Zonotriche inamoena
Del. Sandie Burrows

***Sporobolus piliferus* (Trin.) Kunth**

Annual, erect, up to 450 mm high; panicle spike-like, branches sometimes whorled, glandular, spikelets along whole length; spikelet 1.5–2.1 mm long, reddish brown; often amongst rocks in montane grassland, on rocky hill-sides and granite outcrops in high-rainfall woodland, beside paths, in fire-breaks, and margins of laterite pans; 1,100–2,000 m. Throughout the tropics.

Malawi. Nyika National Park, near Chelinda Camp, 2000, *Smook 10737* (PRE, MAL); near Dembo River bridge, 2000, *Smook 10802* (PRE); Chelinda Bridge, 2000, *Smook 10812* (PRE, MAL, UZL, SRGH, LMA).

***Sporobolus pyramidalis* P.Beauv.**

catstail dropseed; mtsinde

Perennial, erect, up to 2.1 m high; panicle narrowly pyramidal; spikelet 1.7–2.3 mm long, green to greyish or purplish; upper glume obtuse; in dambo and floodplain grassland, on stream banks, less often in open woodland and montane grassland, common where soil fertility is high, a weed of permanent and planted pasture, sometimes invasive in overgrazed marshes; 0–2,290 m. Widely distributed in the southern African region and throughout tropical Africa; also in Madagascar, Mauritius, tropical Arabia, and introduced elsewhere. Belongs in same species complex as *S. africanus*.

Source. *Flora zambesiaca* 10(2): 184 (1999).

Malawi. Nyika Plateau, Chelinda Valley, 2,290 m, 1976, *Phillips 1350* (SRGH).

***Sporobolus sanguineus* Rendle**

Perennial, erect, up to 1.2 m high; panicle branches whorled, spire-shaped; spikelet 2.5–3.5 mm long, reddish; in miombo woodland on sandy soils, often on mountain slopes and rocky outcrops, and on evergreen forest margins; 600–1,830 m. Southern Africa and throughout tropical Africa.

Malawi. Nyika National Park, footpath to Chisanga Falls, 2000, *Smook 10759* (PRE, MAL, UZL, SRGH, LMA).

***Sporobolus stapfianus* Gand.**

fibrous dropseed

Perennial, erect, up to 550 mm high; basal sheaths with curly yellow or brown hairs, disintegrating into persistent fibres; panicle usually diffuse, spikelet 1.4–2.1 mm long, grey-green to dark greenish purple; often in shallow soils over rock; also in miombo or mixed deciduous woodland in bare ground or amongst short grasses, and on margins of sandveld marshes; 100–1,700 m. Southern Africa region and tropical Africa; also in Madagascar and tropical Arabia.

Source. *Flora zambesiaca* 10(2): 191 (1999).

Malawi. Nyika Plateau, 13 km N. of M1, 1977, *Pawek 13302* (K, SRGH).

***Sporobolus subtilis* Kunth ✧**

Perennial, short scaly rhizome, erect, up to 600 mm high; basal leaf sheaths persistent or disintegrating into fibres; panicle very diffuse, branches and pedicels capillary, widely diverging, long white hairs in axils; spikelet 1.3–4 mm long, dark green; in dambo grasslands, sometimes in montane and sandveld grasslands, and on coastal dunes away from the littoral zone; 0–1,800 m. Southern Africa northwards to Tanzania, D.R.C., and W. Africa; also in Madagascar. A variable species. The collections listed below were the first records for Malawi.

Malawi. Nyika National Park, Chelinda River bridge, 2000, *Smook 10810* (PRE, MAL, UZL, SRGH); between Dam #2 and Chelinda River Bridge, 2000, *Smook 10828* (PRE, MAL, UZL, SRGH, LMA).

***Stipa keniensis* (Pilg.) Freitag ✧**

Stipa dregeana Steud var. *elongata* (Nees) Stapf

Perennial, short knotty rhizome, up to 1.5 m high; leaf flat; panicle effuse, branches flexuous, spikelets at end of branches; spikelet 6–7 mm long, awn 10–15 mm long; in shade of montane forests. E. Africa and South Africa.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Streblochaete longiarista* (A.Rich.) Pilg. ✧**

Perennial, straggling, up to 0.9 m high; panicle contracted; spikelet 15–27 mm long, pale green to silvery green, awns 20–43 mm long; all the awns on the inflorescence intertwine and the florets become detached from the

panicle and thus the seeds are dispersed *en masse*; in montane or submontane evergreen forests or scrub. South Africa (rare), Zimbabwe, Malawi, Nigeria, Cameroon, Ethiopia, and E. Africa; also in Indonesia and Philippines.

Source. Brummitt (1973).

Malawi. Nyika National Park, 4 km W. of Nganda, 1972, *Brummitt & Syngae 73* (EA, K, LISC, MAL, SRGH).

***Thelopogon elegans* Roem. & Schult. ✧**

Annual, coarse, erect, stilt roots present, up to 1.5 m high; leaves cordate to amplexicaul at base 2–17 racemes borne terminally; sessile spikelet 5–13 mm long, coarsely rugose, awn 15–25 mm long; very local in weedy patches on black clay soils; 150–1,800 m. Throughout tropical Africa; also extending through India to Indonesia.

Source. *Flora zambesiaca* 10(1): 67 (1971).

Malawi. Nyika Plateau, Mwanembwe, 1903, *McClounie 18* (K); Nyika National Park, without locality or collecting details (Mill 1979).

***Themeda triandra* Forssk. ✧**

red grass, red oat grass; chitungwa

Perennial, erect up to 2 m high; false panicle of wedge-shaped clusters of 2–8 racemes enclosed in russet-coloured spatheoles and spathes; sessile spikelet 6–11 mm long, awn 25–70 mm long; in grassland and grassy areas in bush land or disturbed open woodland, a common dominant of rolling montane grasslands or woodlands; found on lower hills or sometimes in marshes on the Nyika Plateau (Lemon 1964). Probably favoured by fire, but not by close grazing (Lemon 1964). Tropical and subtropical regions of the Old World. This is a widespread polymorphic species and a number of varieties have been described, based on differences in habit and in the hairiness of the spatheoles and spikelets. However, these characters are poorly correlated with chromosome numbers or geographical distribution and are of little significance.

Malawi. Nyika Plateau, Mbuzinande, 1975, *Phillips 770* (K); Nyika Plateau, 6 miles S. of Chelinda Road on Mbuzinandi-Olera Road, 1978, *Pawek 13754* (PRE); Chosi Viewpoint, 2000, *Chapama 142* (FRIM?); Thazima Gate, 2000, *Phiri 3511* (UZL); Thazima-Chelinda Road, 2000, *Mwanyambo 527* (MAL); road above Chisanga Falls, 2000, *Smook 10753* (PRE, MAL, UZL, SRGH, LMA); Jalawe Viewpoint, 2000, *Thera 3114* (MAL).

Zambia. Western part of Nyika National Park, 2000, *Phiri 3941* (UZL); Rest House area, 2000, *Phiri 3765* (UZL).

***Trachypogon spicatus* (L.f.) Kuntze ✧**

giant spear grass

Perennial, erect, up to 2 m high; racemes 1(3); subsessile spikelet barren, awnless; pedicelled spikelet 8–13 mm long, awn 40–100 mm long; in upland grassland, open deciduous bush land, or wooded grassland. Tropical and Southern Africa; also in tropical America. There is considerable variation in vegetative characters, but the spikelets are tolerably constant. Grazed by eland, hartebeest, reedbuck, roan antelope, and zebra, especially after burning (Lemon 1964).

Malawi. Nyika Plateau, 1952, *Jackson 882* (K); Nyika Plateau western valleys, 1959, *Robinson 3082* (PRE); circular drive above Dembo River bridge, 2000, *Smook 10778* (PRE, MAL, UZL, SRGH, LMA).

Zambia. Nyika Plateau, 1959, *Robinson 3010* (K, PRE); western part of Nyika National Park, 2000, *Phiri 3974* (UZL); Rest House area, 2000, *Phiri 3772* (UZL).

***Trichopteryx dregeana* Nees**

Perennial, wiry, trailing, up to 1 m long, nodes exposed; leaves reflexed, panicle narrowly ovate; spikelet 4–5 mm long, upper lemma with lateral tufts 2–3 mm long; central awn 4–6 mm long, lateral awns 1.5–4 mm long; in wet areas and marshy places; 1,100–2,100 m. Malawi, Zambia, Zimbabwe, Angola, South Africa, and D.R.C.; also in Madagascar.

Malawi. Nyika National Park, Sangule Kopje, 2000, *Smook 10868* (PRE, MAL, UZL, SRGH, K).

***Trichopteryx elegantula* (Hook.f.) Stapf**

Trichopteryx delicatissima Phipps

Annual, up to 300 mm high, usually slender and wiry, panicle open or

compact, spikelet 2.5–3.5 mm long, glabrous or tuberculate setose, central awn 7–15 mm long; on damp slopes; 1,200–2,300 m. Malawi, Zambia, D.R.C., and Tanzania, westwards through Uganda to Sierra Leone.

Malawi. Nyika National Park, Jalawe Viewpoint, 2000, *Thera* 3100 (MAL).

Trichopteryx fruticulosa Chiov.

Trichopteryx fruticulosa Chiov. var. *whytei* C.E.Hubb.

Perennial, slender, somewhat woody, erect and stiff, up to 800 mm high, nodes usually hidden; leaves more or less reflexed; panicle lanceolate; spikelet 3–6 mm long, usually glabrous, upper lemma with lateral tufts of hair 1–2 mm long; central awn 8–11 mm long, lateral awns 1.5–3 mm long; rocky slopes in *Brachystegia* woodland. Malawi, Zambia, Angola, D.R.C., and Tanzania.

Source. Brummitt (1973).

Malawi. Nyika National Park, Sawi Valley, 1972, *Synge* 453 (MAL); Chisanga Falls area, 2000, *Phiri* 3563 (UZL); Vitinthiza Hill slope, 2000, *Mwanyambo* 571 (MAL).

Zambia. Nyika National Park, Kaperekezi Road, 2000, *Phiri* 3847 (UZL).

Trichopteryx stolziana Henr. ❖

Trichopteryx elegantula (Hook.f.) Stapf subsp. *stolziana* Phipps

Annual, erect, slender and wiry, up to 300 mm high; panicle compact; spikelet 3.5–5.5 mm long; callus truncate or emarginate; on wet flushes on banks and among rocks, forms patches in overgrazed areas and along paths or roads (Lemon 1964); 1,300–2,500 m. Malawi, Mozambique, Zambia, Zimbabwe, Tanzania, and D.R.C.

Malawi. Nyika National Park, Nganda Hill, 2000, *Phiri* 3692 (UZL); footpath to Chisanga Falls, 2000, *Smook* 10761 (PRE, MAL, UZL, SRGH, LMA).

Tristachya bequaertii De Wild

Dolichochaete bequaertii (De Wild.) Phipps

Perennial, robust, up to 2 m high, basal sheaths woolly tomentose; panicle open or contracted; spikelet 15–25 mm long; common in poor or steep *Brachystegia* woodlands; 1,300–2,000 m. Malawi, Zambia, Tanzania, and D.R.C.

Malawi. Nyika National Park, without and collecting details (Mill 1979).

Tristachya leucothrix Nees ❖

Tristachya hispida K.Schum.

hairy trident grass

Perennial, up to 1.2 m high; panicle with 1–7 triads of spikelets with connate pedicels; spikelet 20–45 mm long, yellow to yellowish brown, villous with rows of black tubercules; in damp grassland. South Africa, Zimbabwe, Mozambique, Malawi, Zambia, and D.R.C.

Malawi. Nyika National Park, Jalawe Viewpoint, 2000, *Thera* 3113 (MAL).

Zonotriche inamoena (K.Schum.) Clayton ❖

Tristachya inamoena K.Schum; *Piptostachya inamoena* (K.Schum.)

Phipps

Perennial, erect, up to 1.5 m high; panicle with triads covered in golden brown hairs; spikelet 10–19 mm long, upper lemma without tufts; in *Brachystegia* woodland; 1,400–1,600 m. Zimbabwe, Mozambique, Zambia, Malawi, Angola, D.R.C., and Tanzania.

Source. *Flora zambesiaca* 10(3): 212 (1989).

Malawi. Rumph District, foothills to Nyika Plateau, 1968, *Simon & Williamson* 1770 (SRGH, K).

Excluded species

Acritochaete volkensii Pilg. ?

Opismenus volkensii (Pilg.) Peter

This genus is not recorded for *Flora zambesiaca* region in *Flora zambesiaca* (1989) or in *Flora of Tropical East Africa* (1982) and, since we have no specimen to confirm its inclusion, it is excluded here.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Aristida hordeacea Kunth

Aristida pseudohordeacea Stent & Rattray

Annual, on sandy, clayey, and black basaltic soils, in open grasslands and woodlands mainly in shallow depressions, on edges of small pans, banks of streams, and mopane veld. It does not seem likely that this is the correct locality for this specimen (see also under McClounie's biographical notes).

Source. *Flora zambesiaca* 10(1): 116 (1971).

Malawi. Nyika Plateau, 1903, *McClounie* s.n. (K).

Eragrostis pseudopoa near **paniciformis**

True identity unknown.

Source. Patel (1999).

Eriochloa macclounii Stapf

Mopane woodland, drainage courses, and flood plains. Lemon (1964) states: 'possibly limited to Nyika Plateau, infrequent or rare'. Said to be a possible endemic to Nyika, but given habitat of mopane woodland it is not likely that the correct locality is given for this specimen. Not recorded for Malawi in *Flora zambesiaca* (1989).

Source. Mill (1979).

Festuca scabra Vahl

Not recorded elsewhere for Malawi; regarded as a South African endemic.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Hyparrhenia simplex (Hochst.) A.Rich.

Cannot find any reference to this name, although the name is old according to authors.

Source. Patel (1999).

Panicum mobukensi

No reference to this species name can be traced.

Source. Patel (1999).

Pennisetum sp.

Source. Brummitt (1972).

Malawi. Nyika National Park, Sawi Valley, 1972, *Synge* 460 (K).

Schizachyrium delicatulum ? Stapf

Tanzania, Guinea to Nigeria. Not recorded from Malawi and, since there are no details of a confirmed specimen, it is excluded here.

Source. Patel (1999).

Trichopteryx sp.

Too young to identify and does not match any material at K or PRE.

Malawi. Nyika National Park, footpath to Chisanga Falls, 2000, *Smook* 10757 (PRE, MAL, K).

PONTEDERIACEAE

Heteranthera callifolia Kunth ❖

Heteranthera kotschyana Fenzl. ex Solms-Laub.; *Heteranthera potamogeton* Solms-Laub.

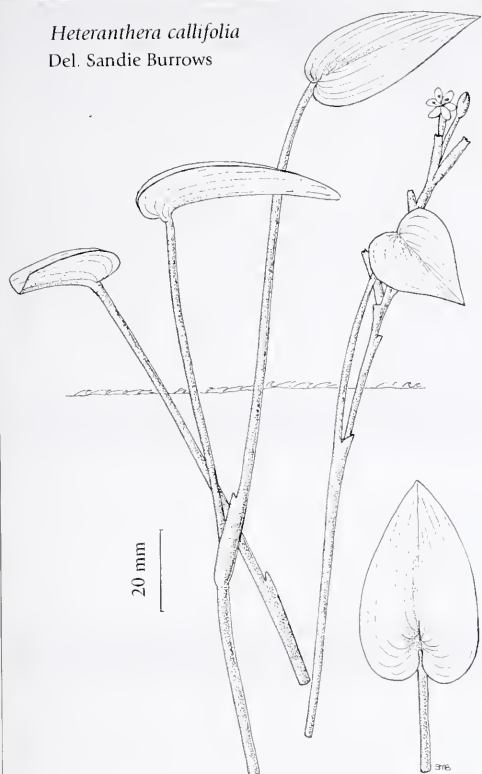
Creeping aquatic herb, rooting at the nodes; leaves sheathing at base, petioles ascending, 60–150 mm long, lamina floating or submerged, 20–75 x 10–50 mm, ovate, base cordate; inflorescence a spike with up to 15 flowers 5–12 mm long, white, blue or purple; capsule trigonous-oblong, many-

seeded; in shallow waters of swamps, marshes, pans or rock pools, 540–2,400 m. Widespread in subtropical and tropical Africa. As with many of McClounie's records, this collection should perhaps be regarded with some suspicion since this species most commonly occurs in warmer, lower-altitude habitats.

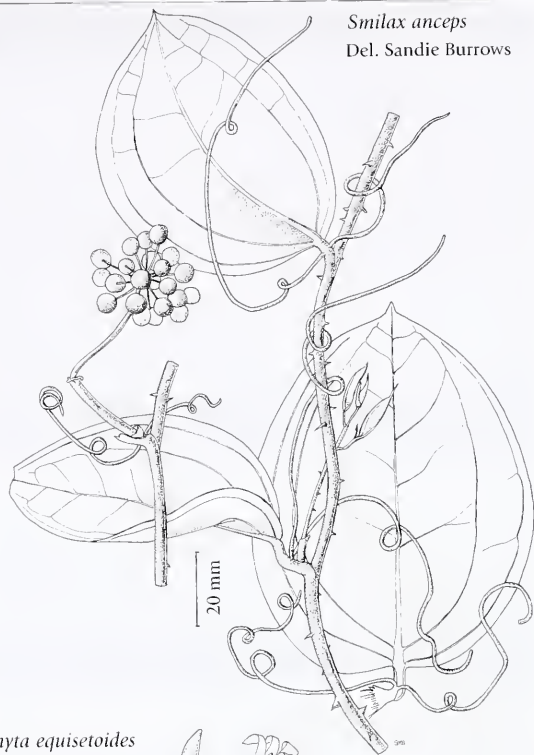
Source. *Kirkia* 16(1): 24 (1996).

Malawi. Nyika Plateau, Mwenembwe, 2,400 m, 1903, *McClounie* 97 (K).

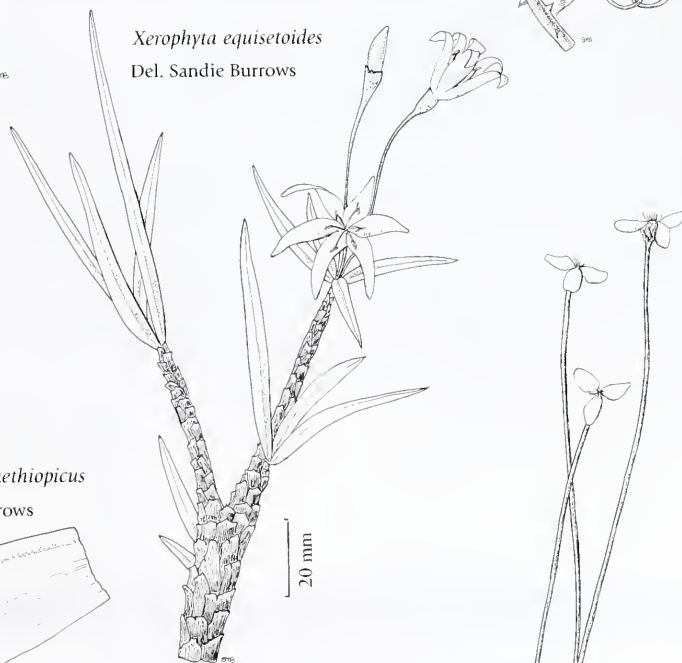
Heteranthera callifolia
Del. Sandie Burrows



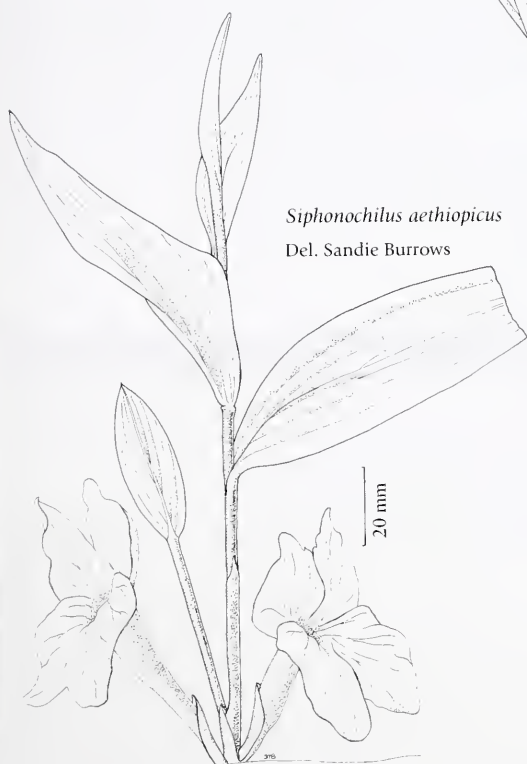
Smilax anceps
Del. Sandie Burrows



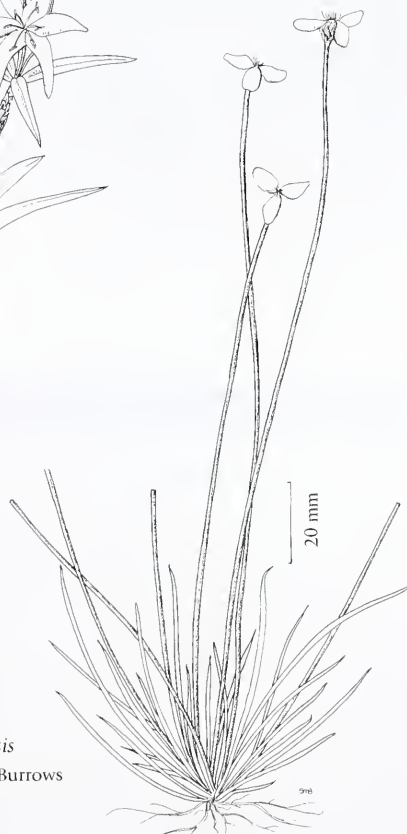
Xerophyta equisetoides
Del. Sandie Burrows



Siphonochilus aethiopicus
Del. Sandie Burrows



Xyris capensis
Del. Sandie Burrows



SMILACACEAE

***Smilax anceps* Willd. ✧**

Smilax mossambicensis Garcke; *Smilax kraussiana* Meissner

Yao: mkwandula; *Sukuwa*: mungapa

Climbing shrub, stem woody, ribbed, armed with small sharp prickles; leaves alternate, circular to oblong, rounded or subcordate at the base; flowers stalked, in solitary umbels (clusters), greenish-white to yellowish; in montane scrub or rank grasses in river valleys, in woodland, and lakesides; 0–2,400 m. Throughout the wetter parts of Africa; also in Madagascar and Réunion.

Source. *F.T.E.A.* Smilacaceae: 2 (1989).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979); Kasyaula Forest, without collecting details (Dowsett-Lemaire 1985: 320).

Zambia. Nyika Plateau, Manyanjere and Chowo Forests, without collect-

ing details (Dowsett-Lemaire 1985: 320).

***Smilax aspera* L.**

Smilax goetzeana Engl.

Climbing or creeping shrub, stems 4- to 6-angled, with or without prickles; leaves, alternate, lanceolate to triangular, cordate, hastate or sagittate to the base; flowers sessile, set in umbels (clusters) along an extended rachis; on forest margins, montane scrub, rocky areas, and along streams; 1,450–2,745 m. From Malawi and Zambia northwards through eastern Africa to N. Africa and western Europe; also in the Himalayas and India.

Malawi. Nyika Plateau, Kasyaula Forest, without collecting details (Dowsett-Lemaire 1985: 320).

VELLOZIACEAE

***Xerophyta equisetoides* Baker var. *pubescens* L.B.Smith & Ayensu ✧**

Chichewa: chejo, chewo, misuwachi

Sparsely branched deciduous shrublet with thick fibrous stems and branches, branches long and slender; leaf sheaths 30 mm long, well-exserted, not splitting, leaves softly hairy; flowers showy, bell-shaped with 6 petals, white or al-

most so; in miombo woodland, rocky hillsides, and on granite rocks. Zimbabwe, Malawi, and Tanzania. It is quite possible that one or more of the other varieties of *X. equisetoides* occur along the margins of the Nyika Plateau.

Source. Smith & Ayensu (1974: 195).

Malawi. Rumphi District, near Nyika Plateau Conjunction, *Salubeni 385* (K, ?MAL).

XYRIDACEAE

***Xyris aristata* N.E.Br.**

Xyris laciniata Hutch.; *Xyris leonensis* Hepper; *Xyris subaristata* Malme
Perennial (rarely annual), in dense clumps, base fibrous; spike sub-globose; bracts with pale scarious margins and markedly papillose, acumen long and rigid; in grass swamps, streamsides, and ditches. Malawi, Zambia, and Tanzania.

Source. Mill (1979); Brummitt (1973).

Malawi. Nyika National Park, W. slopes of Nganda, 1972, *Brummitt & Synge 64* (K, MAL, SRGH, LISC, PRE).

***Xyris capensis* Thunb. ✧**

Annual, sometimes a perennial, forming loose clumps, rhizome inconspicuous; leaves flabellate; inflorescence subspherical, peduncles terete below inflorescence; in marshes, on river-banks, and grassy seepage areas; common and very variable species. Malawi, Zambia, Zimbabwe, Botswana, and widespread through the rest of Africa; also in Madagascar, S. America, India, Sri Lanka, China, and Malaysia.

Malawi. Nyika National Park, Dam #2, 2000, *Smook 10821* (PRE, MAL, UZL, SRGH).

***Xyris congensis* Büttner**

Xyris hildebrandtii Nilsson; *Xyris umbilonis* Nilsson.

Perennial, rhizome hard, covered by persistent shiny reddish brown con-

torted leaf bases, roots thin; leaves clustered, stiff; flowers yellow fading to white; in damp areas, streamsides, often in montane areas, sometimes dominant in swampy places, usually grassy. Malawi, Mozambique, Zambia, Zimbabwe southwards to South Africa; widespread in tropical Africa from E. Africa to Nigeria; also in Madagascar.

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

***Xyris obscura* N.E.Br.**

Xyris brunnea L.A.Nilsson

Perennial, forming dense tufts, up to 0.5 m tall; leaf-bases persistent; spike 3- to 5-flowered, almost black; in montane grassland, often in rocky places. Malawi, Mozambique, Zambia, Zimbabwe; South Africa, Angola Tanzania, Burundi, and Cameroon.

Malawi. Nyika National Park, Jalawe Viewpoint, 2000, *Thera 3101* (MAL).

***Xyris* cf. *straminea* L.A.Nilsson**

Annual, small tufts, leaves linear; inflorescence ellipsoid, bracts yellowish brown; shallow soils over rocks, seasonal swamps, among grass tussocks. South Africa, Zimbabwe, Malawi, Zambia, to E. Africa and W. to Sierra Leone.

Malawi. Nyika National Park, near Juniper Forest, 2000, *Smook 10909* (PRE, MAL).

ZINGIBERACEAE

***Siphonochilus aethiopicus* (Schweinf.) B.L.Burt ✧**

Kaempferia aethiopica (Schweinf.) Ridley

Perennial herb from a short ovoid rhizome, roots with tubers; leaves appearing at or after flowering, leaves narrowly elliptic, 170–360 x 20–45 mm, completely hairless; inflorescence arising from the base of the leafy shoot, more or less at ground level, with 4–12 flowers, flowers mauve to purple

with a yellow mark in the throat; fruit almost underground, roundish, ca 15 mm diameter; in deciduous woodland, scrub or wooded grassland; 350–1,830 m. South Africa northwards to Ethiopia and W. Africa. This is a highly prized medicinal plant in South Africa.

Source. *F.T.E.A.* Zingiberaceae: 20 (1985).

Malawi. Nyika National Park, without locality or collecting details (Mill 1979).

Glossary

Adapted from Retief & Herman (1997) and Leistner (2000).

ABBREVIATIONS: *adj.*, adjective; *adv.*, adverb; *e.g.*, for example; *esp.*, especially; *i.e.*, that is; *pl.*, plural; *sing.*, singular; *syn.*, synonym; *vb.*, verb.

A

a- (*prefix*): without, lacking.

abaxial: applied to the side or surface, facing away from the axis or stem (compare *adaxial*).

achene: a small, dry fruit, not splitting when ripe, formed from a superior ovary of one carpel and containing a single seed, with the seed coat free from the fruit wall, as in *Clematis* (Ranunculaceae) (compare *cypsel*).

actinomorphic: applied to flowers that are radially symmetrical, i.e. capable of being bisected into similar halves in more than one vertical plane, forming mirror images (= *regular*) (compare *irregular*, *zygomorphic*).

acroscopic: facing apically, towards the tip.

acumen: a long, tapering point.

acuminate: narrowing gradually to a point.

acute: having a sharp and rather abrupt point, usually applied to a leaf apex.

adaxial: applied to the side, facing the stem or axis (compare *abaxial*).

adnate: fused to an organ of a different kind, e.g. an ovary to the calyx tube.

adventitious: applied to plant organs produced in an unusual or irregular position, or at an unusual time of development, as in adventitious buds, roots, or shoots.

alien: a plant introduced to a region by man; often having become naturalised in the wild.

alternate: of leaves that are arranged in a zig-zag pattern (alternate) along the axis or rachis (compare to *opposite*).

amphibious: living both on land and in water.

amplexicaul: stem-clasping, as when the base of the leaf is dilated and embraces the stem.

androecium: the stamens and accessories of one flower.

androgynophore: an elongated stalk bearing both the male (*andro-*) and female (*gyno-*) parts of the flower.

androphore: a stalk bearing the androecium.

angiosperm: a seed-bearing plant whose ovules, and hence seeds, develop within an ovary (compare *gymnosperm*).

anterior (applied to floral organs): in a position most remote from the axis (compare *posterior/posticous*).

anthelmintic: (a medicine) acting against parasitic (esp. intestinal) worms.

anther: the male, pollen-bearing organ in a flower, borne on a stalk-like filament.

anthesis: period during which the flower is open.

anticous/antical: applied to that which is most remote or turned away from the axis; occasionally employed for *introrse*, as applied to *anthers*.

antrorse: bent or directed towards the apex or forward (compare *retrorse*).

apex or apical: the tip, or distal end of an organ, usually of a leaf or fruit.

apicule/apiculum/apiculus (*adj.* *apiculate*): a short point.

apud: in the publication of.

areolate: divided into distinct spaces.

aril: a fleshy, coloured covering on a seed, evolved mainly to attract birds and insects, which then distribute the seed.

aristate: a sharp, slender bristle or awn, sometimes borne on a leaf tip or teeth of a leaf margin.

armed: bearing spines, prickles or thorns.

asymmetric: unequal.

attenuate: drawn out into a long, narrow point.

auricle (*adj.* *auricled/auriculate*): an ear-like lobe or appendage at the base of a leaf or other organ.

awn: a long, sharp bristle, usually borne at the tip of a leaf or on the edge of a calyx: see also *aristate* and *bristle-tip*.

axil: the angle between a leaf surface and the stem that bears it; also the angle between a leaf midrib and the side or lateral veins.

axis (of an inflorescence): that part of the stem or branch on which the individual flowers are borne.

B

bacterial nodule: a dark, often raised spot in a leaf, which houses symbiotic bacteria that fix atmospheric nitrogen to the benefit of the plant.

barbed: with rigid points or lateral bristles pointing backwards.

barbellate: shortly barbed.

basal: at the base.

berry: a many-seeded, fleshy fruit.

bi-coloured: of two colours, usually applied to a leaf that is dark green above and much paler below.

bifid: cleft into two parts for about half the length.

bilabiate: 2-lipped, as when two or three lobes of a calyx or corolla stand separate as an upper lip from the others forming a lower lip.

bilobed: with two lobes.

bipinnate (= 2-pinnate): of a compound leaf that is twice-divided, i.e. each segment or pinna is again divided.

bipinnatifid: said of a pinnate leaf in which the leaflets are pinnatifid or incised (cut) about half-way to the midrib of the leaflet; also termed *bipinnatifidly compound*:

bipinnatifidly compound: see *bipinnatifid*.

biseriate: arranged in two rows or whorls.

blade: the flattened part of a leaf.

brachyblast: a very short branch of limited growth, bearing leaves and sometimes flowers and fruit; also termed a *spur*.

bract: a small, atypical or modified leaf situated at the base of a flower, or on a flower stalk or pedicel.

bracteole: a small bract.

bristle-tip: see *awn*.

bud: an undeveloped shoot that can give rise to a branch or flower.

bulbous-based: with an inflated base.

bullate: having a blistered or puckered surface; (of a leaf surface): prominently raised, like a bubble, between the veins.

bundle sheath cells: cells forming a sheath around the vascular bundles of many plant species.

bushveld: a colloquial term of South African origin to denote any vegetation type composed of both trees and grasses, often with shrubby thicket.

C

C-4 plants: species that produce 4-carbon acids as the primary initial CO₂ fixation products. Most C-4 species are monocots, especially grasses and sedges, while more than 300 are dicots.

caducous: falling off early.

callus (*pl.* *calli*): a thickened part, such as the thickened extension at the base of the lemma at the point of its attachment to the rachilla.

calyx: the outer whorl of a flower, made up of a number of sepals (calyx lobes) that protect the flower in bud.

calyx tube: when the sepals are partly united, the lower portion is referred to as the tube and the upper free part as the limb, usually divided into calyx teeth, lobes, or segments (see also *hypanthium*).

campanulate: bell-shaped.

cane: the stems of large grasses and small palms.

canescent: grey-pubescent or hoary.

canopy: the branches and leaves of a tree, also known as the crown; a term usually applied to the top or upper layer of a forest.

capitate: (1) like the head of a pin, as the stigma of some flowers; (2) collected into compact, head-like clusters, as the inflorescences of Asteraceae.

capitulum (*pl.* *capitula*): a dense, head-like inflorescence usually of sessile flowers (see also *head*).

capsule: a dry fruit comprised of more than one carpel; may be indehiscent (not splitting open) or *dehiscent* (splitting open).

carina (*adj.* *carinal*): a keel; the two partially united anterior (lowest) petals of a *papilionaceous* flower, or the single, similar-shaped, anterior petal in many *Polygalaceae*.

carinate: keeled.

carpel: the single unit of a compound pistil (a flower bearing more than one style); also the units of a compound fruit.

cataphyll: small scale leaf, e.g. on rhizomes of flowering plants.

catkin: a dense, often pendulous spike of small, unisexual flowers with no conspicuous perianth.

caudate: abruptly ending in a long, tail-like tip or appendage.

cauline: arising from, or inserted onto the stem.

choripetalous: having separate and distinct petals (= polypetalous) (compare gamopetalous, sympetalous).

ciliate: of a leaf margin, fringed with hairs.

circumscissile: dehiscing as if cut circularly around an organ, often of a fruit capsule.

cladode: a flattened photosynthetic stem.

clavate: club-shaped or thickened towards the end.

clustered: arranged in a tight group, often apparently arising from one point.

commissural: of a joint or seam, such as that between two adhering sepals.

commissure: the faces of cohering carpels (e.g. in Apiaceae); the place of joining or meeting.

compound: made up of several similar parts, commonly applied to a leaf that is divided into leaflets; double compound: in a leaf, twice-divided or bi-pinnate. See also simple.

compound umbel: see umbel.

concolor/concolorous: of uniform colour (e.g. upper and lower leaf surface with the same colour) (compare discolorous).

connate: applied to parts of the same series, which are united so closely that they cannot be separated without tearing.

coppice: the young, vigorous shoots produced from the base of a tree trunk in response to it being damaged or felled, or from damaged roots; see also sucker.

cordate: of a leaf with a lobed or heart-shaped base.

coriaceous: firm, tough, of the consistence of leather.

corm: a tuberous bulb-like rootstock.

corolla: a collective term for the petals of a flower.

corona: a crown; (in the flower of some Apocynaceae and Passifloraceae and others): a circle of appendages between the corolla and stamens, often united in a ring or crown; in some members of the Asclepiadoideae—Apocynaceae, the corona consists of one or two (sometimes three) alternating rows, different in size and shape, the outer row nearest to the corolla lobes, the inner row nearest to the staminal column.

corymb (*adj.* corymbose): a flat-topped racemose inflorescence in which the branches or pedicels start from different points, but all reach to about the same level.

crenate (*noun* crenation) (of a margin): notched with regular blunt or rounded teeth; scalloped.

crenulate: crenate with very small teeth; minutely scalloped.

crescentic/crescentiform: biconcave, resembling the shape of the moon in its first or last quarters.

crown: see canopy.

cuneate: of a leaf base, which is wedge-shaped or like an inverted triangle.

cupule/cupulum (*pl.* cupula): a cup-shaped structure at the base of some fruits, formed by the fusion of involucre bracts at their bases, e.g. the acorn of oaks, a structure at the base of the fruits of some palms, the cup-shaped involucre of some Asteraceae; a series of free trichomes apically on achenes of Asteraceae, which become fused with age.

cupuliform: cup-shaped.

cuspidate: abruptly tipped with a sharp, rigid point.

cuticle: the thin outer skin of a leaf.

cylindrical: shaped like a cylinder, the sides parallel to one another and circular in section.

cymbiform: boat-shaped.

cyme (*adj.* cymose): a determinate inflorescence in which each flower, in turn, is formed at the tip of a growing axis, and further flowers are formed on branches arising below it (compare indeterminate inflorescence).

cypsela (*pl.* cypselae): an achene derived from a 1-loculed, inferior ovary; as in the indehiscent fruits of Asteraceae (compare achene).

D

decoction: a liquid preparation of a medicinal plant, produced by boiling

the selected parts that extract the water-soluble substances.

decumbent: spreading horizontally at first, but then growing upwards.

decurent: of a leaf blade, which has its base running, or continuing, along down the stem.

decussate: of leaves arranged in pairs along a stem, where each pair is set at right-angles to the pair above and below it.

dehiscent: splitting open to release seeds, pollen, or spores. (opposite: indehiscent)

deltoid: shaped like an equal-sided triangle.

demataceous hyphomycetes: fungi resembling the genus *Dematium*, having a felted layer of hyphae bearing perithecia.

dendritic/dendroid: tree-like; resembling the shape of a tree; having a branched appearance.

dentate (of a margin): prominently toothed, the teeth directed outwards.

denticulate: finely toothed.

determinate (of an inflorescence): with a bud or flower terminating the growth of the main axis (compare indeterminate).

di- (*prefix*): two-.

dichotomous: forking regularly into two equal branches.

digitate: with 3 to 9 leaflets radiating from a central point, or the end of the leaf stalk (petiole); also termed digitately compound.

dioecious: with unisexual flowers, the male and the female flowers on separate plants (compare monoecious).

disc: (1) an enlargement of the receptacle within the calyx or within the corolla or stamens, usually in the form of a ring, cup or cushion, often lobed or even cut up into so-called (nectary) glands; (2) disc floret: the central florets as compared with the ray florets in a head of the Asteraceae. discolorous: of a leaf in which the two surfaces are unlike in colour (compare concolorous).

distichous: regularly arranged one above the other in two opposite rows, one on each side of the stem or rachis.

divaricate: widely divergent or spreading in different directions, and often horizontal.

domatia: a cavity formed by a plant (usually on the underside of a leaf), in which live minute insects or mites, apparently living in symbiosis with the plant.

double compound: see compound.

drip-tip: an elongation of the tip of a leaf, which helps shed water from the leaf surface, particularly in high-rainfall, tropical areas where continually wet leaves may lead to the development of leaf diseases.

drupe: a fleshy fruit with a single hard seed or 'stone'.

E

e- (*prefix*): often implying absence of something, e.g. in ebracteate, eglandular.

ebracteate: without bracts.

eglandular: having no glands.

elliptic: usually said of a leaf, which tapers to both ends and is widest about the middle.

emarginate: of a leaf with a notch in the tip or apex.

endemic: having a natural distribution confined to a particular geographical region.

entire: said of a leaf, which has a continuous margin, not broken by teeth or lobes.

epi- (*prefix*): on, upon, above, over.

epicalyx: a series of small bracts growing out from below the sepals or calyx, sometimes more prominent than the sepals.

epigynous: applied to the flower when the sepals, petals, and stamens are apparently borne above the ovary, the latter being enclosed in an adnate receptacle or calyx tube (compare hypogynous, perigynous).

epilithic: growing on rocks (= lithophytic).

epiphyte (*adj.* epiphytic): a plant that grows on another plant, but without deriving nourishment from it, i.e. not parasitic, as some ferns and orchids growing on trees.

ex- (*prefix*): often implying absence of something, e.g. exstipulate.

excurrent: extending beyond the apex or margin of a leaf into a mucro or awn.

exindusiate: lacking an indusium (compare indusiate).

exotic: not indigenous or native; an introduced plant.

exstipulate: without stipules.

extra-floral nectary: a nectary that is found in some place other than the flower; (in this book): at the base of leaflets in the legumes, and of leaves in some other families.

F

falcate: curved like a scythe.

family: a group of one to many genera, believed to be related phylogenetically, usually clearly separable from other such groups; the major taxonomic group between genus and order.

fascicled: of leaves or flowers that arise in numbers from a single point on the stem.

filament: see anther.

filiform: slender, thread-like.

fistular: hollow throughout its length, like a pipe, but closed at the ends.

flabellate: fan-like.

flexuose/flexuous: zigzag or bent alternately in opposite directions.

floral: belonging to, or associated with a flower.

floret: small, individual flowers that make up a (dense) inflorescence, as those in the heads of Asteraceae or the spikelets of Poaceae.

flower: the sexual, reproductive structure of angiosperms, typically consisting of gynoecium, androecium, and perianth, and the axis/receptacle bearing these parts.

fluted: of a tree trunk, which develops vertical grooves that run the length of the trunk; an adaptation to increase trunk strength in tall, slender trees.

foliolate: having leaflets, usually preceded by the number of leaflets, e.g. 3-foliolate (= trifoliate). The term foliolate is of more colloquial usage than foliolate, and is used in this work.

follicle: a many-seeded, dry fruit, derived from a single carpel and splitting down one side, e.g. one lobe of a pod of *Sterculia*.

forb: a non-woody plant other than a grass, sedge, rush, etc. (compare herb).

forest: a vegetation type composed primarily of large trees with overlapping canopies, under which a small tree layer, a shrub stratum, and a herb layer characteristically occur.

free: neither adhering, nor united; **free-basal placenta:** one in which the ovules are attached to a central column arising from the base of the ovary cavity and not reaching the top, e.g. in Primulaceae; **free-central placenta:** the same, but reaching to the top of the cavity, e.g. in most Caryophyllaceae. **frond:** the leaf of a fern.

fruit: a dry or fleshy structure, developed from the ovary and containing one or many seeds.

fusiform: spindle-shaped, thick, but tapering towards each end.

G

gall: an abnormal growth caused by infestation of a plant part by an insect or disease organism.

gamopetalous: with the petals united, either entirely or at the base into a tube, cup, or ring (see also **choripetalous**, **sympetalous**; compare **polypetalous**).

gamosepalous: with united sepals.

gemma (*pl.* **gemmae**): a small, usually cellular, asexual reproductive body which becomes detached from the parent organism and develops into a new individual, especially in ferns, mosses, liverworts, and some fungi.

gemmiferous: bearing gemmae.

geniculate: bent like a knee.

genus (*pl.* **genera**): a group of species believed to be related phylogenetically and usually clearly separable from other such groups, or a single species without close relatives; the major taxonomic rank between species and family.

glabrescent: becoming glabrous or nearly so.

glabrous: without hairs.

gland: an organ or cell secreting a substance such as sugary sap, salt, or water.

glaucous: bluish-green, or covered with a waxy bloom.

globose: of a 3-dimensional object (such as a fruit), which is almost spherical.

glochidium (*pl.* **glochidia**; *adj.* **glochidiate**): barbed bristle or hooked hair.

glomerule (*adj.* **glomerulate**): a small, compact cluster.

glume: a bract, usually chaffy, in the spikelets of Cyperaceae, Poaceae, and similar plants.

geoxylic: of a woody plant with numerous stems arising from a subterranean rhizome.

grassland: a vegetation type dominated by grasses. When a certain quantity of trees is present, it is termed a wooded grassland.

gregarious: growing in groups or colonies.

gymnosperm: a seed plant with the ovules borne on the surface of a sporophyll (compare angiosperm).

gynoecium: the female part of the flower, consisting, when complete, of ovary, style, and stigma; also called pistil.

H

habitat: the environment in which a plant or animal lives.

hastate: applied to the base of a leaf when it has two more or less triangular lobes diverging laterally.

head: a dense inflorescence of sessile, or nearly sessile flowers on a compound receptacle (see also **capitulum**).

helicoid: coiled; (of a cymose inflorescence): branching repeatedly on the same side.

herb: a non-woody plant. Large as well as small plants may be herbaceous.

herbaceous: with non-woody stems as opposed to woody stems.

heterogamous: of different sexes; (of a flowerhead, as in some Asteraceae): having two kinds of florets, including ray florets, which are neuter or unisexual, and disc florets, which are bisexual; of spikelet pairs in Poaceae: consisting of a sterile and a female-fertile spikelet (compare **homogamous**).

heteromorphic: of different forms.

hirsute: with rather coarse, stiff hairs (compare **villous**).

hirsutulous: minutely hirsute.

hispid: bristly pubescent.

hispidulous: minutely hispid.

hoary: covered with white or greyish white, very short, closely interwoven hairs.

holotype: a single specimen designated by the author as the type specimen.

homogamous: applied to a flowerhead/capitulum with all the flowers of the same kind; or to spikelet pairs in Poaceae that are of the same sexuality (compare **heterogamous**).

host: an organism on which a parasite lives and by which it is nourished (also applied, loosely, to a plant supporting an epiphyte).

hyaline: almost transparent.

hypanthium (*pl.* **hypanthia**): a cup or tube bearing floral parts above the base, and often above the top of the ovary of a flower, e.g. in many Myrtales or Onagraceae (see also **calyx tube**).

hypogynous: having the flower parts attached below the base of the ovary and free from it; flowers with this arrangement have a superior ovary (compare **epigynous**, **perigynous**).

I

imbricate: overlapping.

imparipinnate: of a pinnate leaf bearing a single terminal leaflet at the end of the central axis or rachis.

indehiscent: see **dehiscent**.

indeterminate: (1) (of an inflorescence): the lateral or lower flowers mature first, while the primary axis continues to grow, hence the terminal flower is the last to open, and it is therefore a racemose inflorescence (compare **cymose**) (2) (of growth): (= **monopodial**) the condition in which the terminal bud persists and produces successive lateral branches.

indigenous: naturally-occurring in a particular, defined area; synonymous with **native**, which sadly is a fine term that is politically-sensitive in South Africa.

indurated: hardened.

indusiate: having an indusium (compare **exindusiate**).

indusium: a flap of tissue covering a sorus on a fern leaf.

inferior: beneath or below, as in a calyx, which is below the ovary, the latter then being superior; as in an ovary, which appears to be below the calyx, the latter being adherent to the ovary.

inflorescence: a flowering shoot bearing more than one flower, arranged in various patterns (see also **spike**, **raceme**, **panicle**, **umbel**).

insectivorous: catching, and presumably feeding on, insects.

interpitiolar: literally "between petioles", referring to an organ borne on the node between the petiole bases of opposite leaves; especially of the interpitiolar stipules characteristic of all members of the family Rubiaceae.
introrse: applied to an anther opening towards the centre of the flower.
involucre: a small involucre; the involucre of a secondary umbel.
involucre/involucrum (*adj.* involucral): a number of bracts, e.g. those surrounding the base of a flowerhead/capitulum or of an umbel.
involute: having the edges of the leaves rolled towards the adaxial surface (compare *revolute*).
irregular (of a flower, calyx or corolla): bilaterally symmetrical, symmetrical about one plane only, usually the plane that bisects the flower vertically along the longitudinal axis; (= *zygomorphic*) (compare *actinomorphic*, *regular*).
isotype: duplicate of the holotype.

J

jugate: coupled or yoked together, applied especially to the leaflets of a pinnate leaf.

K

keel (*syn.* *carina*): a ridge like the keel of a boat; in Fabaceae a boat-shaped structure formed by the fusion of the two anterior petals.
keeled: ridged along the middle of a flat or convex surface.
kloof: a deep valley, ravine, or gorge.
kranz anatomy: the concentric arrangement of bundle sheath cells typical of C-4 plants.

L

labellum: a lip.
lacinia (*pl.* *laciniae*): a slender lobe.
laciniate: cut into slender, pointed lobes.
lacinulate: finely laciniate.
lamina: the flattened part of a leaf.
lanceolate: of a leaf, which is narrowly lance-shaped and widest at about one-third from the base.
lateral veins: the main veins arising from, or branching off, the midrib. (= side veins or secondary veins)
latex: a copious exudate or sap from a damaged plant, particularly a milky sap, e.g. Moraceae, Euphorbiaceae, Apocynaceae.
lax: loose or floppy, sometimes drooping.
leaf apex: the tip or point of a leaf, the opposite end from the petiole or stalk.
leaf axis: the central line of the leaf, usually the rachis or midrib of a leaf.
leaflet: a separate unit of a compound leaf.
leaf-opposed: said of an organ (flower, spine or tendril) that is situated at the node opposite a leaf.
lectotype: specimen chosen to act as a type from the syntypes.
legume: any plant belonging to the large family Leguminosae (in recent times usually broken down into the families Mimosaceae, Caesalpiniaceae and Fabaceae); also a colloquial term applied to plants with a bean-like pod.
lemma: the lower of two bracts enclosing the florets of Poaceae.
lenticel: very small, corky dots in the young bark (periderm) of a stem or twig through which gases and moisture are expelled.
liana/liane: a woody climber with rope-like stems.
ligule: (1) a thin, membranous and/or hairy appendage at the top of the leaf sheath as in Poaceae; (2) the limb of ray florets in Asteraceae.
limb: the upper, usually expanded part of the calyx or corolla above the tube, throat, or claw.
linear: usually of a very narrow leaf with parallel sides and at least 4–5 times as long as broad.
lip: (1) one of two divisions of a gamosepalous calyx or a gamopetalous corolla when it is cleft into an upper (posterior) and a lower (anterior) portion (see *bilabiate*); (2) of an orchid: the lowest petal (the inner median perianth lobe), usually enlarged and different in form from the two lateral ones (= *labellum*).
lithophyte (*adj.* *lithophytic*): a plant that grows on rocks (= *epilithic*).
lobe: one of the parts into which a flattened plant member (usually a leaf) is cut, when the parts are too large and distinct to be called teeth, but not

completely separated from one another.
locule: a chamber of an ovary or an anther.

M

mericarp: a segment of a fruit that splits away as a perfect fruit itself.
midrib: the main vein that runs down the centre of a leaf.
miombo: a native term widely used in south tropical Africa to describe a deciduous woodland type dominated by members of the genus *Brachystegia* (Caesalpiniaceae) and other closely related genera, such as *Julbernardia*, *Isobertlinia* and *Berlinia*.
moniliform: like a string of beads.
mono- (*prefix*): one; single.
monocarpic: applied to a plant that flowers and fruits only once and then dies (compare *polycarpic*).
monoecious: with male and female flowers, separate but borne on the same individual plant.
monopodial (of growth): with a persistent terminal growing point producing many lateral organs successively (compare *sympodial*).
montane: of the mountains.
mucilage (*adj.* *mucilaginous*): a gelatinous substance that absorbs water and increases in bulk.
mucro: a short, sharp, and very fine point borne on the tip of the leaf.
mucronate: ending abruptly in a short, stiff point, which is a continuation of the midrib.
mucronulate: finely mucronate.
muricate: rough, with short, hard tubercles or pointed protuberances.
muriculate: finely muricate.

N

-nate (*suffix*): indicating the number of parts in a group, e.g. leaves 3-nate = three leaves in a group or cluster.
naturalised: introduced from another region, reproducing freely from seed, and competing successfully with indigenous plants.
neotype: specimen chosen to act as a type when the original material has been lost.
nerves: the principal or more conspicuous ribs of a leaf, which start from the midrib and diverge or branch throughout the blade; the smaller branches are veins.
net venation: the very fine veins of the leaf, usually all joining one another and forming a network.
node: the point on a stem where the leaf or leaves emerge.
nut: a dry, hard, usually one-seed indehiscent (non-splitting) fruit.
nutlet: a little nut.

O

ob- (*prefix*): inverse or inversely, e.g. *obovate* = inversely *ovate*.
obcordate: more or less heart-shaped, but with the narrow end below, and the broad end deeply notched.
oblanceolate: of a narrow leaf resembling an inverted lance, widest two-thirds up from the base (above the middle).
obovate: of a leaf shape, roughly shaped like an inverted egg, widest in the upper half.
obtruse: blunt or rounded at the end.
-oid (*suffix*): indicates likeness, resemblance or similarity; or something having the form or nature of something else; e.g. *racemoid*: resembling a raceme; *petaloid*: resembling a petal.
opposite: said of leaves inserted in pairs at each node, with a leaf on each side of the stem.
orbicular: flat with a circular outline.
ovary: the hollow basal portion of a flower bearing the seed or seeds, sometimes divided into two or more chambers or locules.
ovate: of a leaf shape, roughly egg-shaped in outline, widest in the lower half.
ovule: the young developing seed in an ovary.

P

palea (*pl.* *paleae*; *adj.* *paleate*): (1) one of the chaffy scales or thin colourless bracts amongst the flowers on the receptacle, in Asteraceae; (2) the inner of two bracts enclosing the floret, in Poaceae.

pallid: pale in colour.

palmate: of a leaf shape resembling the palm of a hand, with 3 or more lobes radiating from a central portion of the lamina.

palmatisect (of a leaf): **palmately** divided down to the **midrib**.

pandurate/panduriform: fiddle-shaped.

panicle: an **inflorescence**, which is a branched raceme, each branch bearing a raceme of flowers.

papilionaceous/papilionoid: applied to flowers with a 'butterfly-like' appearance, as in many Papilionoideae—Fabaceae and Polygalaceae.

papilla (*pl.* **papillae**): a soft, nipple-shaped protuberance; a type of trichome.

papillate: having **papillae**.

pappus: the ring of hairs or scales around the top of the fruit (as in Asteraceae) and perhaps representing the calyx limb.

parasite: an organism living on, or in a different organism and deriving nourishment from it (compare **epiphyte**, **saprophyte**).

paripinnate: said of a **compound** leaf, which bears no terminal leaflet, i.e. has an even number of leaflets.

pectinate: like a comb.

pedicel (*adj.* **pedicellate/pedicelled**): the stalk of an individual flower.

peduncle (*adj.* **pedunculate/ peduncled/peduncular**): the stalk of an **inflorescence**; the common stalk (**rachis** or **axis**) of several **pedicellate** or **sessile** flowers.

pellucid: translucent.

peltate: usually of a round leaf, where the petiole arises from the centre of the leaf, rather than from the edge of the leaf.

pendent/pendulous (of ovules): arising on, and hanging down from an apical **placenta**.

perianth: the floral envelope that includes the calyx and the **corolla**; a term mainly applied to these organs in the Monocotyledonae (bulbs, grasses, orchids, etc.).

perennial: lasting all year, not dying back in winter.

perigynous: applied to the flower when the sepals, petals, and stamens arise on an open receptacle surrounding the ovary, but are not **adnate** to it (compare **epigynous**, **hypogynous**).

persistent: remaining attached, not falling off.

petal: one lobe of the **corolla**, the showy and often colourful part of a flower.

petaloid/petaline: resembling petals.

petiole (*adv.* **petiolate**): the stalk of a leaf.

petiolule: the stalk of a leaflet.

photosynthetic: of a green plant part in which the process of photosynthesis takes place, whereby plants generate carbohydrates from water, carbon dioxide, and sunlight with the aid of the green pigment **chlorophyll**.

phyllary: an individual bract of the involucre, e.g. in the **inflorescence** of Asteraceae.

phyllode: a flattened, leaf-like petiole, which takes on the functions of a leaf.

pilose: with long, shaggy hairs.

pinna (*pl.* **pinnae**): a single unit of a leaf that is once-divided, or a pinnate leaf; see also **leaflet**.

pinnate: said of a leaf that is once-divided and having leaflets arranged in two ranks on opposite sides of the **rachis**; also termed **pinnately compound**.

pinnately compound: see **pinnate**.

pinnatifid: said of a leaf blade that is cut about half-way to the **midrib**.

pinnatipartite: **pinnately** divided almost to the **midrib**.

pinnatisect: **pinnately** divided down to the **midrib**.

pinnule: a single unit of a twice-divided (2-pinnate) leaf.

pistil: see **gynoecium**.

placenta: the part of the ovary that is sometimes, but not always, thickened or raised, and to which the ovules are attached (see also **free**).

plicate: folded back and forth longitudinally like a fan.

pod: a dry fruit formed from a single **carpel**; often a term applied to the hard fruit of the legumes, usually containing several seeds.

polycarpic: applied to a plant that flowers and fruits often (compare **monocarpic**).

polypetalous: of flowers with petals that are free from each other (compare **gamopetalous**).

posterior: in position nearest to the axis (compare **anterior/anticous**).

posticous: on the **posterior** side, next to the axis (compare **anticous**).

prickle: a sharp outgrowth from the bark or surface layer, containing no conducting tissue.

procumbent: trailing or lying on the ground without rooting at the **nodes**.

prophyll: a leaf formed at the base of a shoot, usually smaller than those formed subsequently.

prostrate (*syn.* **procumbent**): trailing to lying on the ground without rooting at the **nodes**.

protuberance: a bulge or swelling.

pseudobulb: a solid, above-ground, thickened or bulbiform stem, characteristic of some orchids.

pseudopetiole: the narrowed portion of the leaf located between the **ligule**(s) and the **blade** in Poaceae and in some Cyperaceae.

pseudostem: an apparent stem, which is actually a cylinder formed by overlapping leaf bases.

puberulous: slightly **pubescent**.

pubescent: covered with soft, short, erect hairs.

pulvinus: the swollen base of a **petiole**, or a swollen area on the petiole below the point of attachment of the leaf blade.

pustule (*adj.* **pustulate**): a slight elevation like a pimple or blister.

pyrophyte: a plant adapted to survive severe fires.

Q

quoad: as to, with respect to.

R

raceme (*adj.* **racemose**): an **indeterminate inflorescence** in which the flowers are borne on **pedicels** along an unbranched axis or **peduncle**, the terminal flowers being the youngest and last to open (centripetal development).

rachilla (*pl.* **rachillae**): (1) the **rachis** (axis) of the spikelet in Cyperaceae and Poaceae; (2) a secondary axis, as in a **compound** leaf.

rachis (*pl.* **rachises** or **rachides**) (= **rhachis**): (1) the axis of an **inflorescence** in which flower stalks occur at short intervals from each other, as in Poaceae; (2) the axis of a **pinnately compound** leaf, corresponding to the **midrib** of a **simple** leaf.

ray: (1) the **florets** of the margin of a flowerhead of the Asteraceae when different from those of the centre or **disc**; (2) one of the radiating branches of an **umbel**.

receptacle: the enlarged end of the flower stalk (**pedicel**) on which the flower parts are borne.

recurved: bent or curved backwards.

regular (= **actinomorphic**) (of a flower, calyx or **corolla**): radially symmetrical, i.e. capable of being dissected into similar halves in more than one vertical plane forming mirror images (compare **irregular**, **zygomorphic**).

reniform: kidney-shaped.

reticulate: having a network-like pattern; net-veined, with the smallest veins of a leaf connected together like the meshes of a net.

retorse: bent abruptly backwards, away from the **apex** (compare **antrorse**).

revolute: rolled back from the margin (compare **involute**).

rhachilla: see **rachilla**.

rhizome (*adj.* **rhizomatous**): a rootstock or root-like stem **prostrate** on or under the ground, sending rootlets downwards, and branches, leaves, or flowering shoots upwards, always distinguished from a true root by the presence of buds, leaves, or scales.

rhombic: a shape of four equal sides, but with unequal angles, i.e. a squashed square.

riparian: growing by rivers or streams.

rootstock: a short, swollen structure at the junction of the root and the shoot system of a plant.

rosette: a crowded, circular cluster of leaves or other organs.

rosulate: with the leaves in a circle or rosette.

rotund: with a shape between **orbicular** and broadly **elliptic**.

rugose: wrinkled; covered with coarse **reticulate** lines.

rugula (*pl.* **rugulae**): a fine wrinkle or fold, e.g. in the upper **lip** of some Acanthaceae.

rugulose: finely wrinkled.

runner: a slender, **prostrate** or trailing stem, which produces roots and sometimes erect shoots at its **nodes** (compare **stolon**).

S

saccate: pouched.

sagittate: applied to the base of a leaf or an anther with two acute, straight lobes directed downwards like in an arrow-head.

samara: an indehiscent winged fruit, e.g. *Combretum* or *Terminalia*.

saprophyte: an organism deriving its nourishment from dead organic matter and usually lacking chlorophyll (compare epiphyte, parasite).

saxicolous: living or growing among, or on rocks.

scaberulous/scabrelous: minutely scabrous, slightly rough to the touch.

scabrid/scabrous: rough to the touch, usually from the presence of very short, harsh hairs.

scalloped: said of a leaf margin having rounded teeth.

scandent: climbing.

scapose: with a solitary flower on a leafless peduncle or scape, usually arising from a basal rosette.

scarious: thin and dry, not green.

scorpioid (of a cymose inflorescence): with the main axis coiled in bud, the flowers being usually 2-ranked, i.e. with single flowers alternately right and left (compare helicoid).

scutate: like a small shield.

secondary veins: see lateral veins.

secund: with parts or organs (branches, leaves or flowers) all directed to one side.

sepal: a segment of the calyx; a calyx-lobe.

serrate: set with fine teeth, usually applied to a leaf margin.

serrulate: serrate with minute teeth.

sessile: without a stalk.

seta (*pl.* setae): a bristle or stiff hair.

setaceous: having bristle-like hairs; bristly.

setiferous: bearing setae.

setiform: looking like a seta.

setose: beset with bristles.

shrub: a woody, perennial plant with two to several stems arising from near the ground; compare to a tree.

shrub stratum: the layer in a forest or woodland below the tree canopy that is dominated by shrubs; see also shrub and canopy.

side veins: see lateral veins.

simple: of a leaf, which is undivided or, if lobed, then less than half way to the midrib.

sori: the clusters of spore-bearing bodies on the underside of a fern frond, normally appearing as small brown lines or dots.

spadix (*pl.* spadices): a flower spike with a fleshy or thickened axis, e.g. in Araceae and some palms (Arecaceae).

spathe (*adj.* spathaceous/spatheate): a large bract enclosing a spadix, or one or more bracts enclosing a flower or inflorescence.

spatheole: a secondary spathe within a compound inflorescence in the Andropogoneae—Poaceae.

spatulate: of a leaf shape, which is bulbous towards the end, like the shape of a spatula.

spicate: arranged in a spike.

spike: an inflorescence with a single, unbranched axis bearing stalkless (sessile) flowers.

spikelet: a small spike, composed of one or more flowers enclosed by glumes, in Cyperaceae and Poaceae.

spine: a hard, straight, slender and sharply-pointed structure, usually a modified leaf or stipule.

sporangium (*pl.* sporangia): a hollow, unicellular or multicellular, sac-like, spore-producing structure.

sporophyll: a modified leaf or leaf-like structure that bears sporangia.

spur: a short, stubby side-branch bearing a cluster of leaves and/or the flowers and fruit.

stamen (*adj.* staminal): in angiosperms, the pollen-producing structure in a flower usually consisting of an anther and a filament.

staminal column: see androphore.

stellate: resembling a star in shape; (of hairs): with several arms radiating horizontally.

stigma: the tip of the female stigma in a flower; the receptive portion of the style on which germinate the pollen grains.

stipe: the stalk or petiole of a fern frond.

stipule: a basal appendage to a leaf or a petiole, often leafy and photosynthetic, frequently enclosing and protecting the developing leaf bud.

stolon: a runner, which roots.

stoloniferous: bearing stolons.

striate: marked with parallel longitudinal lines, grooves, or ridges.

strigose: with short, stiff hairs lying close along the surface.

style: in a flower the stalk bearing the stigma, borne on the ovary.

stylopodium: a disc-like enlargement of the base of the style (e.g. in some Brassicaceae).

sub-: a prefix denoting 'almost' or 'approaching' a particular state.

subulate (awl-shaped): narrow and tapering gradually to a fine point.

succulent: thick, fleshy, often with water-storing tissue; usually an adaptation to withstand long periods of drought such as found in arid regions.

sucker: see coppice.

suffrutescent: like a suffrutex.

suffrutex (*pl.* suffrutices): a woody perennial plant with a large underground stem, which produces annual aerial flowering shoots that persist for one to a few years. Also sometimes termed an undergrowth tree.

sulcate: grooved.

superior: applied to an ovary when the sepals, petals, and stamens are inserted below it (hypogynous); also when the receptacle bearing the calyx, corolla, and stamens is prolonged so as to be separate from the ovary, but forms a cup surrounding it (perigynous) (compare inferior).

sympetalous: having petals that are partly or completely fused (*syn.* choripetalous, gamopetalous) (compare polypetalous).

sympodial (of growth): without a single persisting growing point; changing direction by frequent replacement of the growing apex by a lateral growing point below it (compare monopodial).

syntype: any one of two or more specimens cited by the author when no holotype was designated, or any one of two or more specimens simultaneously designated as types.

T

taxon (*pl.* taxa): any unit of classification into which a living organism fits, e.g. a family, genus, species, subspecies, or variety.

tendrill: a slender, twining organ, usually a modified leaf or stipule, which enables a plant to climb by hooking onto other plants.

terete: cylindrical, circular in transverse section.

ternate: arranged in a whorl or cluster of three.

tertiary venation: the fine net-veining situated throughout a leaf between the secondary veins (also known as lateral veins or side veins); only sometimes visible to the naked eye.

tessellate: having colours or surface-divisions in regularly arranged squares or patches; chequered, reticulated.

tetra- (*prefix*): four.

tetragonous/tetragonal: four-angled.

thorn: a curved spine; sometimes a term applied to a sharply-pointed branch.

tomentellous: covered with dense, matted hairs.

tomentose: covered in a dense mat of minute short hairs.

topotype: a specimen of a named taxon collected, usually later, from the original type locality, or the area from where the species was described.

tree: a woody, perennial plant, normally with a single stem or bole and a distinct upper crown.

tri- (*prefix*): three; thrice.

triad: a group of three.

trichome: an epidermal outgrowth, such as a hair or scale.

trichotomous: forking regularly into three.

trifoliate: a leaf with 3 leaflets, more correctly termed 3-foliate.

trigonus: triangular in cross section and with obtuse angles (compare triquetrous).

triquetrous: triangular in cross section and with acute angles, therefore with three distinct longitudinal ridges (compare trigonous).

trullate: trowel-shaped; having its widest axis below the middle and with straight margins.

truncate: apparently cut off abruptly; of a leaf base that is square-cut.

truss: a cluster of flowers or fruit growing on a single stalk.

tubercle: a small, wart-like outgrowth.

tuberculate: covered with wart-like protuberances or knobs.

twiner: a small and slender climber.

U

umbel: an inflorescence with numerous stalked flowers arising from a single point; each flower may be similarly-divided to form a compound umbel.

undulate: wavy, usually applied to a leaf margin.

uni- (*prefix*): one-.

urticate: to cause a burning or itching sensation.

V

vallecular: pertaining to the grooves between the ridges, as in the fruits of Asteraceae and Apiaceae.

valvate: of a dry capsule, which releases its seeds via a door-like flap.

venation: the veins of a leaf.

verrucose: warty.

verruculose: finely warty.

verticil: a whorl or circular arrangement of similar parts around an axis, at the same level.

vesicle: a small sac or cavity; a spherical body.

vescicular: pertaining to, having or composed of vesicles.

villous: beset with long, weak hairs (compare **hirsute**).

virgate: with many long, slender, straight, ascending, almost parallel stems.

viscid: sticky, glutinous.

vitta (*pl. vittae*): aromatic oil tubes in the fruit of some Apiaceae.

W

whorl: where a number of organs (often leaves) arise from a single point or level.

wing: a flattened outgrowth from a fruit or seed that assists in the wind-dispersal of the seed or fruit.

woodland: a vegetation type composed largely of trees, where the crowns of the trees are well-spaced apart, or just touching, with only a herb layer beneath the canopy; compare to forest.

X

xeromorphic (of plants or plant parts): having characteristics that serve as protection against excessive loss of moisture.

xerophyte (*adj. xerophytic*): a plant that is adapted to dry or arid habitats.

Z

zygomorphic: applied to flowers that are bilaterally symmetrical, i.e. capable of being bisected into identical halves in one plane only, forming mirror images; (= **irregular**) (compare **actinomorphic**, **regular**).

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About SABONET

This publication is a product of the Southern African Botanical Diversity Network (SABONET), a programme aimed at strengthening the level of botanical expertise, expanding and improving herbarium and botanic garden collections, and fostering closer collaborative links among botanists in the southern African subcontinent.

The main objective of SABONET is to develop a strong core of professional botanists, taxonomists, horticulturists, and plant diversity specialists within the ten countries of southern Africa (Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia, and Zimbabwe). This core group will be competent to inventory, monitor, evaluate, and conserve the botanical diversity of the region in the face of specific development challenges, and to respond to the technical and scientific needs of the Convention on Biological Diversity.

To enhance the human resource capacity and infrastructure available in the region, SABONET offers training courses, workshops, and collaborative expeditions in under-collected areas. The programme produces a newsletter, *SABONET News*, and a series of occasional publications, the Southern African Botanical Diversity Network Report Series, of which this publication is part.

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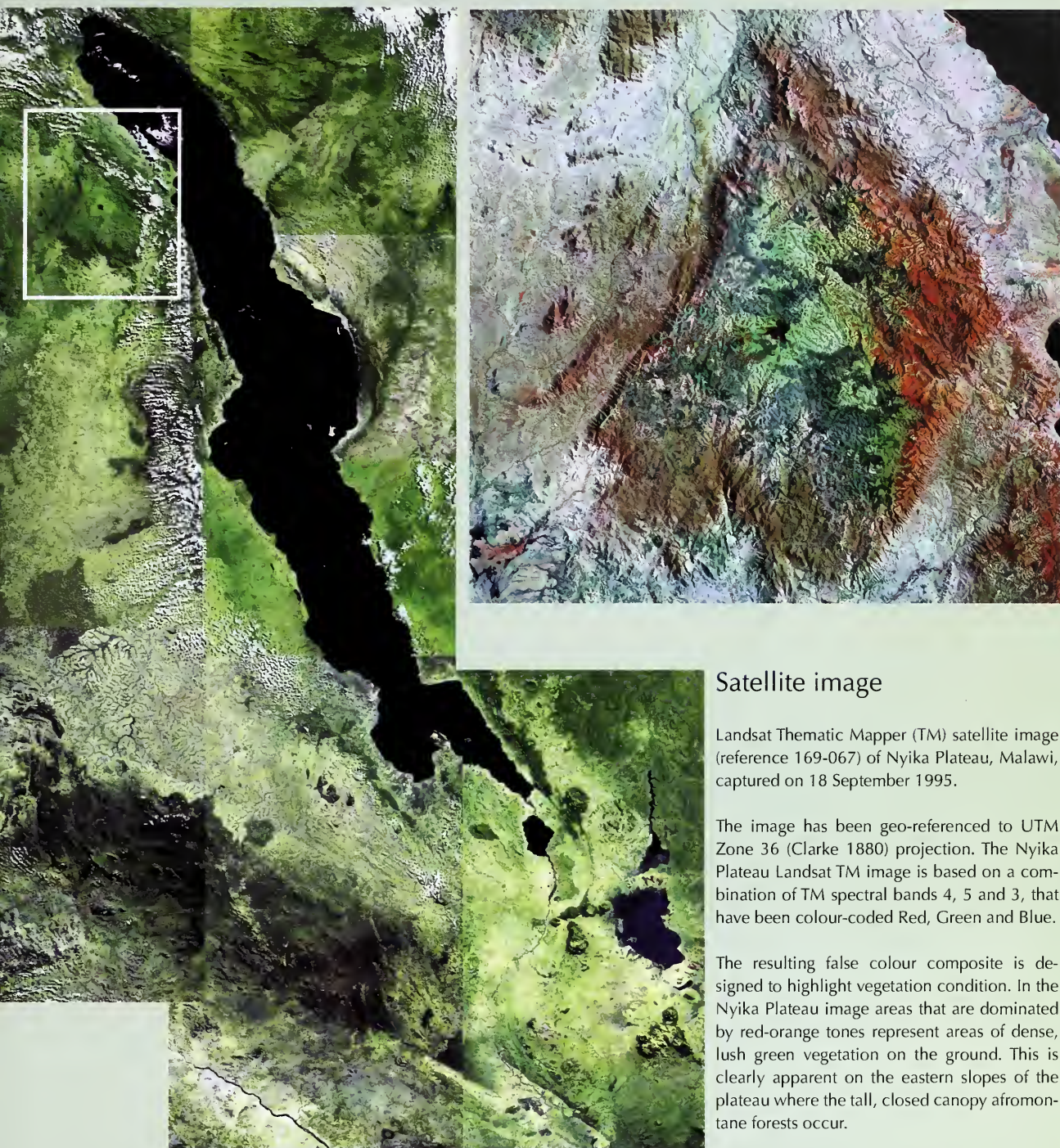
Plants of the Nyika Plateau: an account of the vegetation of the
Nyika National Parks of Malawi and Zambia.

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Satellite image

Landsat Thematic Mapper (TM) satellite image (reference 169-067) of Nyika Plateau, Malawi, captured on 18 September 1995.

The image has been geo-referenced to UTM Zone 36 (Clarke 1880) projection. The Nyika Plateau Landsat TM image is based on a combination of TM spectral bands 4, 5 and 3, that have been colour-coded Red, Green and Blue.

The resulting false colour composite is designed to highlight vegetation condition. In the Nyika Plateau image areas that are dominated by red-orange tones represent areas of dense, lush green vegetation on the ground. This is clearly apparent on the eastern slopes of the plateau where the tall, closed canopy afro-montane forests occur.

Lower down the slopes, and on the east-facing escarpment area nearer to the lakeshore, the lighter red-pink tones represent drier, more open canopy bush communities. The low lying vegetated wetlands between the plateau and the Vinthukutu Forest Reserve also show up as distinct red-pattern areas.

On the plateau itself the open grasslands appear as light green tones, with dambos and bush clumps showing up as red patches. The dark brown feature in the centre of the plateau is an exotic pine tree plantation—it appears less red than other tree communities due to the needle leaf structure.

Degraded or over-utilised areas that suffer from loss of vegetation cover and enhanced soil or substrate exposure typically appear as light blue/whiter tones. The dark blue-green patches (mainly on the grassland plateau) are remnant fire scars.



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